

KPC 2000+

Knowledge, Practices and Coverage Survey

October 2000 Edition



REVISED BY THE CHILD SURVIVAL TECHNICAL SUPPORT PROJECT
AND THE CORE MONITORING AND EVALUATION WORKING GROUP

+0002000 KPC

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OCTOBER 2000

For further information or comments on this
document, please contact:

The Child Survival Technical Support Project
11785 Beltsville Drive, Suite 300
Calverton, MD 20705-3119
(301)572-0823
csts@macroint.com

Jay Edison
CORE M&E Working Group
KPC Revision Taskforce Chair
ADRA International
12501 Old Columbia Pike
Silver Spring, MD 20904
(301) 680-5128
JayEdison@compuserve.com



The Child Survival Technical Support Project is funded by the Office of Private and Voluntary Cooperation, Bureau of Humanitarian Response, of the United States Agency for International Development (USAID), under contract number FAO-C-00-98-00079-00, and is managed by ORC Macro. The Child Survival Collaborations and Resources Group (CORE) is funded by grant number FAO-A-00-95-00024-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of USAID.

THE KPC2000+ TOOLKIT

CONTENTS

The KPC2000+ Toolkit contains the following:

1. *Rapid CATCH* (Core Assessment Tool on Child Health) + tabulation plan
2. Updated guidelines for writing the survey report
3. Updated KPC modules
4. LQAS promising practices case study
5. JHU state of the art paper on methodology and sampling issues (December 1999)
6. List of additional resources

WHAT'S NEW SINCE THE DECEMBER 1999 RELEASE OF THE KPC?

The Rapid CATCH

The *Rapid CATCH* (Core Assessment Tool on Child Health) relates to intended beneficiary-level results of child survival (CS) projects. The tool comprises a small set of questions from the *KPC₂₀₀₀₊* modules and provides a snapshot of the target population in terms of child health.

Also enclosed is the *Rapid CATCH* Tabulation Plan, which lists priority child health indicators and provides guidance in their tabulation. The CORE Monitoring and Evaluation Working Group strongly encourages CS projects to report these core indicators, which provide critical information on life-saving household behaviors and care-seeking patterns that affect the health and survival of children worldwide.

New-and-Improved Modules

Projects are encouraged to use the modules as a means of supplementing the *Rapid CATCH* with information that is relevant to their specific project activities. Upon release of the *KPC₂₀₀₀* questionnaire in December 1999, a number of PVOs volunteered to field-test the instrument. The October 2000 version of the KPC modules reflects suggestions for improvement borne out of PVO field-testing experiences and the July 2000 KPC Task Force meeting. In addition, a new module—Module 4B, Sick Child—has been added to 1) document the ability of mothers to recognize key signs that the child is ill and needs treatment and 2) triage cases for the disease modules (Diarrhea, Acute Respiratory Illnesses, and Malaria).

Although all modules have been updated, the HIV/STI Module, in particular, has been revised to include a broader spectrum of topics (e.g., stigma, sources of care and support, and orphans/foster children).

Updated Report-writing Guidelines

The KPC guidelines developed by the former JHU Child Survival Support Program (JHU/CSSP) have been updated to emphasize the importance of the following:

- reporting details of the KPC process, including the engagement of local partners/stakeholders
- performing and reporting simple cross tabulations of the data to highlight potential differentials between subgroups
- including confidence limits with survey indicators to give an idea of the margin of error associated with each estimate

KPC Resource List

This toolkit also includes a short list of resources that may be useful to projects when implementing KPC surveys.

THE KNOWLEDGE, PRACTICES AND COVERAGE (KPC) SURVEY—AN OVERVIEW

Purpose of Child Survival Projects

Child Survival (CS) projects generally aim to reduce under-five morbidity and, in the event of illness, prevent mortality. Success in morbidity and mortality prevention may be achieved through a series of “desired results.” Project objectives and activities usually relate to these desired results.

DESIRED RESULTS OF A CHILD SURVIVAL PROJECT	
(1)	Improved maternal nutritional status
(2)	Improved child nutritional status
(3)	Timely and complete immunization of young children
(4)	Appropriate case management of common childhood illnesses
(5)	Widespread practice of behaviors that reduce the risk of common childhood illnesses
(6)	Antenatal care coverage
(7)	Safe deliveries
(8)	Postpartum contact with a health provider
(9)	Adequate child spacing
(10)	Prevention and early detection of HIV/STIs
(11)	Environmental conditions that are conducive to disease prevention

History of the Rapid KPC Survey

Over the past decade, Private Voluntary Organizations (PVOs) have been integral in improving child survival; however, a shortage of staff with training in monitoring and evaluation has been a major constraint in documenting progress. In response to the need for a rapid, easy-to-use means of assessing progress, USAID solicited help from the Child Survival Support Program (CSSP) of The Johns Hopkins University. CSSP consulted with PVO staff and designed the *Rapid Knowledge, Practices and Coverage (KPC) Survey* for mothers of children under the age of two years¹. Traditionally, mothers have been selected using a 30-cluster sampling methodology, which is an efficient means of obtaining coverage estimates for an entire program area.

The KPC is a management tool that yields a concise and manageable set of indicators to monitor and estimate the results of PVO CS activities. In addition, survey implementation is intended to foster local participation in identifying health priorities and in monitoring community health status.

The Revised KPC Survey

Recently, PVOs expressed a desire to expand the scope of the original KPC to include other issues of programmatic importance, namely, anthropometry, malaria, and HIV/STIs. The CORE Monitoring and Evaluation (M&E) Working Group and the Child Survival Technical Support Project (CSTS) assumed the task of updating the *KPC* questionnaire. The current (October 2000) version of the *KPC* has two components:

1. the *Rapid CATCH*, which provides a snapshot of the target population in terms of child health
2. 15 modules which correspond to child survival technical interventions. Each module contains interviewer instructions, suggested qualitative and quantitative research questions, and a basic tabulation plan. PVOs are encouraged to use the modules to obtain information that is relevant to their program activities and objectives.

KPC2000+ MODULES	
1A.	Household Water and Sanitation
1B.	Respondent Background Information
2.	Breastfeeding and Infant/Child Nutrition
3.	Growth Monitoring and Maternal/Child Anthropometry
4A.	Childhood Immunization
4B.	Sick Child
4C.	Diarrhea
4D.	Acute Respiratory Illness
4E.	Malaria
5A.	Prenatal Care
5B.	Delivery and Immediate Newborn Care
5C.	Postpartum Care
6.	Child Spacing
7.	HIV and Other Sexually Transmitted Infections
8.	Health Contacts and Sources of Information

¹ Although child survival projects target children under the age of five, there are a number of reasons why the *Rapid KPC* focuses on children under age two. Those reasons are as follows:

- Among children under age five, under twos experience the highest health risks.
- Budget and human resource constraints warrant limiting the age range of children who are surveyed to those under age two.
- Given time constraints, whereby projects are given a short period of time to establish interventions and assess impact, some PVOs choose to monitor and estimate program effects based upon beneficiaries who are under two. If children under-five are included, the effects of a program may be diluted by the experiences of older kids who were not program beneficiaries.

--Jay Edison and Joseph Valadez, KPC Revision Task Force

KPC₂₀₀₀ Rapid Core Assessment Tool on Child Health (CATCH)

**Statement from the CORE Monitoring And Evaluation Working Group
About the *Rapid CATCH***

The CORE Monitoring and Evaluation Working Group (MEWG) strongly suggests that PVOs include all the *Rapid CATCH* (*Core Assessment Tool on Child Health*) questions in their surveys. Even if some of these core questions do not relate specifically to project interventions, they provide information on critical, life-saving, household behaviors and care-seeking patterns. This information can be used as follows:

1. To inform the implementing PVO and its local partners (MOH, USAID mission, NGOs, etc.)
2. To provide a basis for comparability between projects within a given country, as well as across countries
3. For advocacy at both the national and international levels

If the *CATCH* questions are not included, it is suggested that the logic for that decision be stated. The MEWG believes that collecting, analyzing, interpreting, using, and sharing this information has the potential to save the lives of children and mothers.

This questionnaire targets mothers of children less than 24 months of age.

1. RECORD INTERVIEW DATE

DAY		MONTH		YEAR	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

2. How old are you?

RECORD AGE OF RESPONDENT IN YEARS: ____

3. How many children living in this household are under age five? _____

4. How many of those children are your biological children? _____

What We Know: Birth intervals of at least 24 months (the minimum recommended duration between successive pregnancies) are associated with a lower risk of death and illness in children. The following table can be used to estimate the amount of time that elapsed between the births of the respondent's two youngest children. It should be noted, however, that this question only pertains to surviving children and therefore may not accurately depict child spacing within the target community.

5. READ ONE OF THE FOLLOWING QUESTIONS BASED UPON MOTHER'S RESPONSE TO Q.4:

ONLY 1 CHILD UNDER FIVE: "What is the name, sex, and date of birth of that child?"

MORE THAN 1 CHILD UNDER FIVE: "What are the names, sexes, and dates of birth of your two youngest children?"

	NAME	SEX	DATE OF BIRTH
1		1. MALE	__ __ / __ __ / __ __
		2. FEMALE	DD MM YY
2		1. MALE	__ __ / __ __ / __ __
		2. FEMALE	DD MM YY

ALL SUBSEQUENT QUESTIONS PERTAIN TO THE YOUNGEST CHILD UNDER AGE TWO

Anthropometry

What we know: In poor countries, malnutrition is a contributing factor in more than half of all under-five deaths. Body dimensions (weight and height) reflect the overall health and well-being of individuals and populations. The prevalence of low weight-for-age (underweight) can be used to assess nutrition interventions and is a required indicator for all projects funded under USAID's Title II (Food Assistance) Program.

6. May I weigh (NAME)?

1. YES
2. NO → **SKIP TO Q.8**

7. IF MOTHER AGREES, WEIGH THE CHILD AND RECORD WEIGHT BELOW. *RECORD TO THE NEAREST TENTH.*

__ __ . __ KILOGRAMS

Maternal and Newborn Care

What we know: Neonatal tetanus is the second leading cause of death from a vaccine-preventable illness among children. A pregnant woman should receive at least two tetanus toxoid injections to prevent tetanus in her baby. Delivery assistance by skilled health personnel is also recommended to ensure hygienic conditions for safe delivery, as well as early recognition, treatment, and/or referral of complications in the mother and/or baby.

8. Before you gave birth to (NAME) did you receive an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth?
1. YES
 2. NO → **SKIP TO Q.10**
 8. DON'T KNOW → **SKIP TO Q.10**
9. How many times did you receive such an injection?
1. ONCE
 2. TWICE
 3. MORE THAN TWO TIMES
 8. DON'T KNOW
10. Now I would like to ask you about the time when you gave birth to (NAME). Who assisted you with (NAME'S) delivery?
- A. DOCTOR
 - B. NURSE/MIDWIFE
 - C. AUXILIARY MIDWIFE
 - D. TRADITIONAL BIRTH ATTENDANT _____
(NAME)
 - E. COMMUNITY HEALTH WORKER
 - F. FAMILY MEMBER _____
(SPECIFY RELATIONSHIP TO RESPONDENT)
 - G. OTHER _____
(SPECIFY)
 - Y. NO ONE

Breastfeeding and Nutrition

What We Know: Exclusive breastfeeding of infants until about six months of age, appropriate complementary feeding from about six months of age, and continued breastfeeding until 24 months are critical nutrition behaviors aimed at improving the nutritional and health status of infants and young children. Immediate placement of the newborn at the mother's breast reduces the risk of hypothermia in the newborn and allows the infant to reap the nutritional and anti-bacterial/anti-viral benefits of the mother's colostrum. Although immediate breastfeeding is ideal, initiation of breastfeeding within the first hour of life leaves little opportunity for the introduction of prelacteal feeds and is conducive to establishing optimal infant-feeding behaviors.

11. Did you ever breastfeed (NAME)?

1. YES
2. NO → **SKIP TO Q.13**

12. How long after birth did you first put (NAME) to the breast?

1. IMMEDIATELY/WITHIN FIRST HOUR AFTER DELIVERY
2. AFTER THE FIRST HOUR

13. I would like to ask you about the types of liquids and foods that (NAME) consumed yesterday during the day or at night. Did (NAME) have. . .

READ EACH OF THE FOLLOWING AND PLACE A CHECK MARK IN THE BOX NEXT TO EACH ITEM CONSUMED.

	LIQUID/FOOD	CONSUMED IN LAST 24 HOURS?
A	Breastmilk?	
B	Plain water?	
C	Other liquids?	
D	Mashed, pureed, solid, or semi-solid foods?	
E	Anything else? SPECIFY: _____ _____ _____	

Child Immunization

What We Know: (1) Some of the major causes of morbidity, disability, and mortality in children are preventable by vaccines. Timing is very important: a child should be fully immunized against the five vaccine-preventable diseases (poliomyelitis, diphtheria, pertussis, tetanus, and measles) by his/her first birthday. (2) In contexts where vitamin A deficiency is a problem, vitamin A supplementation has also been cost-effective in improving child-health outcomes.

Measles is one of the five leading causes of child deaths worldwide. Consequently, measles prevention has been identified as a major priority within the child survival community. This questionnaire provides CS projects with two options:

A) Assess full immunization coverage before the first birthday [Qs. 14 and 15] using information recorded on children's vaccination cards

B) Assess measles vaccine coverage [Q. 16] based upon maternal reports of measles vaccination

Whereas full immunization coverage before age one can only be assessed among children with immunization cards, projects that choose Option B may ask all mothers—regardless of whether the child has a card or not—if the child was immunized against measles.

**IF OPTION A IS CHOSEN, OMIT QUESTION 16 FROM THE QUESTIONNAIRE.
IF OPTION B IS CHOSEN, OMIT QUESTIONS 14 AND 15.**

14. Do you have a card where (NAME'S) vaccinations are written down?

IF 'YES' ASK 'May I see it please?'

1. YES, SEEN BY INTERVIEWER
2. NOT AVAILABLE (lost/misplaced, not in home)→ **SKIP TO Q.17**
3. NEVER HAD A CARD→ **SKIP TO Q.17**
8. DON'T KNOW→ **SKIP TO Q.17**

15. RECORD INFORMATION EXACTLY AS IT APPEARS ON (NAME'S) VACCINATION CARD.

	DAY	MONTH	YEAR
BCG	<input type="text"/>	<input type="text"/>	<input type="text"/>
POLIO 0	<input type="text"/>	<input type="text"/>	<input type="text"/>
POLIO 1	<input type="text"/>	<input type="text"/>	<input type="text"/>
POLIO 2	<input type="text"/>	<input type="text"/>	<input type="text"/>
POLIO 3	<input type="text"/>	<input type="text"/>	<input type="text"/>
DPT 1	<input type="text"/>	<input type="text"/>	<input type="text"/>
DPT 2	<input type="text"/>	<input type="text"/>	<input type="text"/>
DPT 3	<input type="text"/>	<input type="text"/>	<input type="text"/>
MEASLES	<input type="text"/>	<input type="text"/>	<input type="text"/>
VITAMIN A	<input type="text"/>	<input type="text"/>	<input type="text"/>

16. Did (NAME) ever receive an injection to prevent measles?

1. YES
2. NO
8. DON'T KNOW

Malaria Prevention

What We Know: In countries where malaria is endemic, the disease has had adverse effects on the health and survival of young children. One means of reducing malaria transmission is through the use of insecticide-treated mosquito nets.

Questions 17 through 19 can be omitted in non-endemic areas.

17. Do you have any bednets in your house?

1. YES
2. NO → **SKIP TO Q.20**
8. DON'T KNOW → **SKIP TO Q.20**

18. Who slept under a bednet last night? CIRCLE ALL THAT APPLY.

- A. CHILD (NAME)
- B. RESPONDENT
- C. OTHER INDIVIDUAL(S) _____
(SPECIFY)

19. Was the bednet ever soaked or dipped in a liquid to repel mosquitoes or bugs?

- 1. YES
- 2. NO
- 8. DON'T KNOW

Integrated Management of Childhood Illnesses (IMCI)

What We Know: In recent years, there has been a trend towards the integrated management of the most important causes of childhood deaths: pneumonia/acute respiratory infections, diarrhea, measles, malaria, and malnutrition. Community IMCI entails the recognition of key signs of illness that warrant treatment, effective home management of childhood illnesses, and timely and appropriate care-seeking outside of the home, when necessary.

20. Sometimes children get sick and need to receive care or treatment for illnesses. What are the signs of illness that would indicate your child needs treatment? *DO NOT PROMPT. CIRCLE ALL MENTIONED.*

- A. DON'T KNOW
- B. LOOKS UNWELL OR NOT PLAYING NORMALLY
- C. NOT EATING OR DRINKING
- D. LETHARGIC OR DIFFICULT TO WAKE
- E. HIGH FEVER
- F. FAST OR DIFFICULT BREATHING
- G. VOMITS EVERYTHING
- H. CONVULSIONS
- I. OTHER _____
(SPECIFY)
- J. OTHER _____
(SPECIFY)
- K. OTHER _____
(SPECIFY)

21. Did (NAME) experience any of the following in the past two weeks?

READ CHOICES ALOUD AND CIRCLE ALL MENTIONED BY RESPONDENT.

- A. DIARRHEA
- B. BLOOD IN STOOL
- C. COUGH
- D. DIFFICULT BREATHING
- E. FAST BREATHING/SHORT, QUICK BREATHS
- F. FEVER
- G. MALARIA
- H. CONVULSIONS
- I. OTHER _____

(SPECIFY)

- J. OTHER _____

(SPECIFY)

K. NONE OF THE ABOVE → **SKIP TO Q.24**

22. “When (NAME) was sick, was he/she offered less than usual to drink, about the same amount, or more than usual to drink?”

- 1. LESS THAN USUAL
- 2. SAME AMOUNT
- 3. MORE THAN USUAL

23. When (NAME) was sick, was he/she offered less than usual to eat, about the same amount, or more than usual to eat?

- 1. LESS THAN USUAL
- 2. SAME AMOUNT
- 3. MORE THAN USUAL

HIV/AIDS

In light of the multidimensional, multigenerational impact of AIDS on populations throughout the globe, an increasing number of PVOs are including activities related to HIV/AIDS in their child survival projects. Traditionally, PVO strategies have focused on increasing knowledge and awareness in communities. Some PVOs are now beginning to explore means of ameliorating the negative impact of the disease on children and communities. Nevertheless, widespread knowledge of the modes of HIV transmission is a critical first step in thwarting the spread of HIV/AIDS.

24. Have you ever heard of an illness called AIDS?

1. YES
2. NO → **SKIP TO Q.26**

25. What can a person do to avoid getting AIDS or the virus that causes AIDS?

CIRCLE ALL MENTIONED.

- A. NOTHING
- B. ABSTAIN FROM SEX
- C. USE CONDOMS
- D. LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER
- E. LIMIT NUMBER OF SEXUAL PARTNERS
- F. AVOID SEX WITH PROSTITUTES
- G. AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS
- H. AVOID INTERCOURSE WITH PERSONS OF THE SAME SEX
- I. AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENOUSLY
- J. AVOID BLOOD TRANSFUSIONS
- K. AVOID INJECTIONS
- L. AVOID KISSING
- M. AVOID MOSQUITO BITES
- N. SEEK PROTECTION FROM TRADITIONAL HEALER
- O. AVOID SHARING RAZORS, BLADES
- W. OTHER _____
(SPECIFY)
- X. OTHER _____
(SPECIFY)
- Z. DON'T KNOW

Hand-washing Practices

What We Know: Washing hands at appropriate times is one of the most important ways of preventing the spread of disease. WHO and UNICEF have acknowledged appropriate hand washing as a key family practice to improve child health and nutrition in communities. USAID's Environmental Health Project (EHP) also recognizes that community-wide changes in hygiene practices are critical to achieving reductions in illness and death among young children.

26. Before we end, I'd like to ask one more question. When do you wash your hands with soap/ash?

DO NOT PROMPT. CIRCLE ALL MENTIONED.

- A. NEVER
- B. BEFORE FOOD PREPARATION
- C. BEFORE FEEDING CHILDREN

D. AFTER DEFECATION

E. AFTER ATTENDING TO A CHILD WHO HAS DEFECATED

X. OTHER _____
(SPECIFY)

The KPC₂₀₀₀₊ Rapid Core Assessment Tool on Child Health (CATCH)

Tabulation Plan

This tabulation plan serves as a guide for analyzing and interpreting information collected in the *KPC₂₀₀₀₊ Rapid Core Assessment Tool on Child Health (CATCH)*. Questions in the *Rapid CATCH* relate to intended beneficiary-level results of child survival (CS) projects. As seen below, there are nine technical intervention areas that fall under the aegis of the Child Survival Grants Program.

CS Technical Intervention Areas

1. Immunization
2. Nutrition and Micronutrients
3. Breastfeeding Promotion
4. Control of Diarrheal Disease
5. Pneumonia Case Management
6. Control of Malaria
7. Maternal and Newborn Care
8. Child Spacing
9. STI/HIV/AIDS Prevention

The *Rapid CATCH* comprises a small set of questions from the *KPC₂₀₀₀₊* modules and is intended to provide a snapshot of the target population in terms of child health. **Projects that are interested in collecting in-depth information related to specific interventions should consult the *KPC₂₀₀₀₊* modules for suggested questions.**

In this tabulation plan, questions in the *Rapid CATCH* are linked to a concise set of indicators that reflect current international standards in each technical area. The Interagency Working Group (IAWG) on the Integrated Management of Childhood Illnesses (IMCI) has developed a list of household-level IMCI indicators. This list served as a basis for the *Rapid CATCH*; however, the survey's scope has been further expanded to include non-IMCI issues such as child spacing, maternal and newborn care, HIV/AIDS, and hand washing.

Below is a list of illustrative indicators that can be gleaned from the *Rapid CATCH*. Every question in the survey has not been linked to an indicator; 13 priority indicators have been identified. The prevalence of underweight is highlighted as a sentinel measure of child health and wellbeing. The remaining indicators relate primarily to the prevention of illness and death in children.

PRIORITY CHILD HEALTH INDICATORS

Sentinel Measure of Child Health and Well-being

1. Percentage of children age 0–23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population)

Prevention of Illness/Death

2. Percentage of children age 0–23 months who were born at least 24 months after the previous surviving child
3. Percentage of children age 0–23 months whose births were attended by skilled health personnel
4. Percentage of mothers with children age 0–23 months who received at least two tetanus toxoid injections before the birth of their youngest child
5. Percentage of children age 0–5 months who were exclusively breastfed during the last 24 hours
6. Percentage of children age 6–9 months who received breastmilk and complementary foods during the last 24 hours
7. Percentage of children age 12–23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday
8. Percentage of children age 12–23 months who received a measles vaccine
9. Percentage of children age 0–23 months who slept under an insecticide-treated net (in malaria risk areas) the previous night
10. Percentage of mothers with children age 0–23 months who cite at least two known ways of reducing the risk of HIV infection
11. Percentage of mothers with children age 0–23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated

Management/Treatment of Illness

12. Percentage of mothers of children age 0–23 months who know at least two signs of childhood illness that indicate the need for treatment
13. Percentage of sick children age 0–23 months who received increased fluids and continued feeding during an illness in the past two weeks

ANALYZING THE DATA

As a first step, it is important to run frequencies (counts) of responses to each survey question. Simple cross tabulations of the data by key background variables are also encouraged. Although KPC sample sizes are typically small, cross tabulations may suggest important differences between subgroups of mothers/children that warrant further investigation. It is helpful to report findings for any cross tabulations that are performed, even if it can only be stated that no differences between subgroups were observed for certain variables.

The following are some background characteristics to consider when analyzing the data and examples of ways in which mothers and children can be categorized:

CHARACTERISTIC	SUBGROUP CATEGORIES
1. Maternal age	<25, ≥25
2. Child's age	0–11 months, 12–23 months
3. Sex of child	male, female
4. Under-five household density	households with ≤ 2 children under five, households with > 2 children under five

Given the small sample size associated with most KPC surveys, caution should be exercised in choosing more than two categories for subgroup analysis. For example, there may not be a sufficient number of cases to explore differences between women in five-year age groups (i.e., 15–19, 20–24, 25–29, 30–34, etc.). As a result, the five-year age groups are collapsed into broader age categories.

The context in which a survey is conducted may impact the categories that are chosen. For example, in societies where women marry young, a younger age cut-off may be more appropriate (e.g., < 20 versus ≥ 20). Also, in societies where premarital childbearing is common, some projects may choose to include an additional question on mother's marital status (married versus unmarried) or type of household (e.g., female-headed versus male-headed) in order to obtain results that speak to the specific context in which the PVO is working.

The following table illustrates the importance of subgroup analysis. In a hypothetical survey with 300 children age 0–23 months, 47 percent of children (140 out of 300) are fully immunized before the first birthday. When immunization coverage is examined by child's sex, however, it is apparent that the picture is particularly bleak for girls: only 29 percent (40 out of 140) are fully immunized, compared with 63 percent of boys (100 out of 160). While an overall estimate of coverage is important, findings that highlight subgroup differences may assist projects in targeting individuals, as well as in demonstrating improvements in coverage for particular segments of the target population.

FULLY IMMUNIZED BEFORE 1st BIRTHDAY?				
SEX OF CHILD		Yes	No	TOTAL
	Male	100	60	160
	Female	40	100	140
	TOTAL	140	160	300

TABULATING KEY INDICATORS

This section provides guidance in tabulating the priority indicators listed on page two. The order in which each indicator is presented corresponds to the order in which its relevant questions appear in the *Rapid CATCH*.

The indicators presented below are calculated as proportions. In order to convert each indicator into a percentage, simply multiply the proportion by 100.

CHILD SPACING (Questions 3–5)

Access to effective methods of child spacing enables couples to space births and to prevent unwanted pregnancies. Birth intervals of at least 24 months are associated with a lower risk of illness and death in children.

INDICATOR

- *Birth Interval Between Two Youngest Surviving Children*: percentage of children age 0–23 months who were born at least 24 months after the previous surviving child

Numerator: Number of children age 0–23 months whose date of birth is at least 24 months after the previous sibling's date of birth (**Question 5**)

Denominator: Number of children age 0–23 months in the survey who have an older sibling

NOTE: This indicator is based solely on children who are alive at the time of the interview and thus may not be comparable to birth interval indicators from other data sources (in particular, those that take non-live births and/or both surviving and non-surviving children into account).

➤ *For more in-depth questions related to child spacing, refer to Module 6 (Child Spacing) of the KPC₂₀₀₀₊*

ANTHROPOMETRY (Questions 6–7)

In poor countries, malnutrition contributes to more than 50 percent of under-five mortality. The prevalence of underweight (low weight-for-age) is a reflection of both chronic (past) and acute (current) undernutrition. Projects receiving Title II (Food Assistance Program) funds are required to report this indicator to USAID.

INDICATOR

- *Underweight (low weight-for-age) prevalence*: percentage of children age 0–23 months who are below 2 standard deviations (-2 SD) from the median weight-for-age, according to the WHO/NCHS reference population

Numerator:	Number of children age 0–23 months whose weight (Question 7) is -2 SD from the median weight of the WHO/NCHS reference population for their age
Denominator:	Number of children age 0–23 months in the survey who were weighed (response=1 for Question 6)

EPI-Info has two programs, ENTER and EPINUT, that handle anthropometric data. ENTER is ideal in clinical settings, whereas EPINUT is a more efficient means of tabulating population-level data. The ENTER program calculates indices one child at a time and is useful in rapidly detecting data entry and data collection errors. In contrast, the EPINUT program calculates indicators on batches of data (i.e., multiple individuals at a time). It is the preferable choice when data on age, sex, and height/weight have already been entered into a computer, and the project would like to calculate anthropometric measures based on those data.

For additional guidance in analyzing and interpreting anthropometric data, consult the following document from the Food and Nutrition Technical Assistance Project (FANTA):

Cogill, Bruce. 2000. *Anthropometric Indicators Measurement Guide*. Food and Nutrition Technical Assistance Project (FANTA)/AED.

Check FANTA's website (<http://www.fantaproject.org>) for recent publications.

EXPLORING DIFFERENTIALS

There are different reference standards for boys and girls, therefore, it is very important to disaggregate the data by sex. Once the indicator is tabulated, projects could also explore differences in underweight prevalence by the following:

- Child's age group
- Previous birth interval
- Under-five household density

➤ *For more in-depth questions related to anthropometry, refer to Module 3 (Growth Monitoring and Maternal/Child Anthropometry) of the KPC₂₀₀₀.*

MATERNAL AND NEWBORN CARE (Questions 8–10)

In an effort to reduce the number of child deaths due to tetanus, all pregnant women should receive two tetanus toxoid injections during pregnancy, up to a total of five for lifetime protection. In addition, the international community recognizes that delivery assistance by skilled health personnel can provide hygienic conditions for safe delivery, and can ensure early recognition, treatment, and/or referral of complications that arise during childbirth.

INDICATORS

- *Tetanus toxoid coverage:* percentage of mothers of children age 0–23 months who received at least two tetanus toxoid injections before the birth of their youngest child

Numerator: Number of mothers of children age 0–23 months with responses=2 ('twice') or 3 ('more than two times') for **Question 9**

Denominator: Number of mothers of children age 0–23 months in the survey

- *Skilled delivery assistance:* percentage of children age 0–23 months whose births were attended by skilled health personnel

Numerator: Number of children age 0–23 months with responses =A ('doctor'), B ('nurse/midwife'), or C ('auxiliary midwife') for **Question 10**

Denominator: Number of children age 0–23 months in the survey

Per international guidelines, traditional birth attendants (TBA), whether trained or untrained, are not included in the numerator of this indicator. Projects whose activities include TBA training may want to calculate this indicator in two ways: 1) excluding TBAs (to comply with the international definition of skilled delivery assistance) and 2) including trained TBAs (to document changes in delivery care-seeking as it relates to the project intervention).

- *For more in-depth questions related to maternal and newborn care, refer to Modules 5A (Prenatal Care), 5B (Delivery and Immediate Newborn Care), and 5C (Postpartum Care) of the KPC₂₀₀₀₊*

BREASTFEEDING AND NUTRITION (Questions 11–13)

The following are current international standards related to breastfeeding and infant/child nutrition:

- Exclusive breastfeeding of infants until about six months of age
- Appropriate complementary feeding from about six months of age

INDICATORS

- *Exclusive breastfeeding rate:* percentage of infants age 0–5 months who were exclusively breastfed in the last 24 hours

Numerator: Number of infants age 0–5 months with only response=A ('breastmilk') for **Question 13**

Denominator: Number of infants age 0–5 in the survey

- *Complementary feeding rate:* percentage of infants age 6–9 months receiving breastmilk and complementary foods

Numerator: Number of infants age 6–9 months with responses= A ('breastmilk') and D ('mashed, pureed, solid, or semi-solid foods') for **Question 13**

Denominator: Number of infants aged 6–9 months in the survey

A note about age ranges: Age ranges include children who are exactly the lower number up to the end of the upper number. For example, 0–5 months refers to children age 0 months (i.e., age 0–29 days) to age 5 months and 29 days.

In recent years, the recommended duration of exclusive breastfeeding has changed from four months to ‘about six months’. Some countries may still have national policies that promote the earlier cutoff, however. Projects may want to calculate the rate of exclusive breastfeeding in two ways: 1) in compliance with the current international policy and 2) in compliance with the national policy for the country in which they are working (to ensure comparability with estimates from other data sources within the country).

EXPLORING DIFFERENTIALS

It is suggested that, at minimum, projects tabulate the above indicators by child’s sex in order to explore gender differences in infant feeding. Other differentials may exist, for example, by previous birth interval.

- *For more in-depth questions related to breastfeeding and nutrition, refer to Module 2 (Breastfeeding and Infant/Child Nutrition) of the KPC₂₀₀₀₊.*

CHILD IMMUNIZATION (Questions 14–16)

The ultimate goal of immunization programs is to reduce the incidence of vaccine-preventable diseases in children. This is achieved through full immunization coverage against five diseases (poliomyelitis, diphtheria, pertussis, tetanus, and measles) by the end of the first year of life. The following indicators are based upon the two options presented in the *Rapid CATCH*.

INDICATORS

- *Full immunization coverage before the first birthday:* percentage of children age 12–23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday

Numerator: Number of children age 12–23 months who received Polio3 (OPV3), DPT3, and measles vaccines before the first birthday, according to the child’s vaccination card (**as documented in Question 15**)

Denominator: Number of children age 12–23 months in the survey who have a vaccination card that was seen by the interviewer (response=1 ‘yes, seen by interviewer’ for **Question 14**)

It is important that projects limit this indicator to children who have vaccination cards at the time of the interview. Some children who do not have vaccination cards may have been fully vaccinated; however, without a card, it is not possible to determine if a child was fully vaccinated *before the first birthday*. By including children who do not have cards in the denominator, and not in the numerator, a project would *underestimate* full coverage before the first birthday. This is the rationale behind limiting the indicator to card-confirmed cases.

- *Measles vaccination coverage based on maternal report:* percentage of children age 12–23 months who received a measles vaccine

Numerator: Number of children age 12–23 months with response=1 ('yes') for **Question 16**

Denominator: Number of children age 12–23 months in the survey

The above indicator, which is less stringent than the previous indicator on full coverage, is an opportunity to assess all children, whether or not they have a vaccination card. The indicator is limited to measles because the child survival field has identified measles prevention as a priority activity.

➤ *For more in-depth questions related to Child Immunization, refer to Module 4A (Childhood Immunization) of the KPC₂₀₀₀₊*

MALARIA PREVENTION (Questions 17–19)

- *Child bednet use:* percentage of children age 0–23 months who slept under an insecticide-treated¹ bednet the previous night (in malaria-risk areas only)

Numerator: Number of children age 0–23 months with 'child' (response=A) mentioned among responses to **Question 18** AND response=1 ('yes') for **Question 19**

Denominator: Number of children age 0–23 months in the survey

➤ *For more in-depth questions related to malaria, refer to Module 4E (Malaria) of the KPC₂₀₀₀₊*

INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESSES (IMCI) (Questions 20–23)

Two focuses of the community IMCI strategy are 1) timely caregiver recognition of signs in children that indicate the need for treatment and 2) effective home management of child illnesses. Corresponding *CATCH* indicators are presented below.

INDICATORS

- *Maternal knowledge of child danger signs:* percentage of mothers who know at least two signs of childhood illness that indicate the need for treatment

Numerator: Number of mothers of children age 0–23 months who report at least two of the signs listed in B through H of **Question 20**

Denominator: Number of mothers of children age 0–23 months in the survey

¹ "Insecticide-treated" includes immersion in an insecticide solution and/or regular direct spraying.

- *Increased fluids and continued feeding:* percentage of sick children age 0–23 months who received increased fluids and continued feeding during an illness in the past two weeks

Numerator: Number of children age 0–23 months with response=3 ('more than usual') for **Question 22** AND response=2 ('same amount') or 3 ('more than usual') for **Question 23**

Denominator: Number of children surveyed who were reportedly sick in the past two weeks (children with any responses other than K ('none')) for **Question 21**).

- *For more in-depth questions related to childhood illnesses, refer to Modules 4B (Sick Child), 4C (Diarrhea), 4D (Acute Respiratory Illnesses), and 4E (Malaria) of the KPC₂₀₀₀₊*

HIV/AIDS (Questions 24–25)

Widespread knowledge of ways to reduce the risk of HIV transmission is critical in thwarting the spread of HIV/AIDS.

INDICATOR

Maternal knowledge of HIV risk reduction: percentage of mothers of children age 0–23 months who cite at least two known ways of reducing the risk of HIV infection

Numerator: Number of mothers of children age 0–23 months who mention at least two of the responses that relate to safer sex or practices involving blood for **Question 25**

Denominator: Number of mothers of children age 0–23 months in the survey

- *For more in-depth questions related to HIV/AIDS, refer to Module 7 (HIV/STIs) of the KPC₂₀₀₀₊*

HAND WASHING (Question 26)

The promotion of hand washing and other hygiene practices are critical to the reduction of illness and death in young children.

INDICATOR

Maternal hand-washing behavior: percentage of mothers of children age 0–23 months who wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated

Numerator: Number of mothers of children age 0–23 months who mention responses B through E for **Question 26**

Denominator: Number of mothers of children age 0–23 months in the survey

- *For more in-depth questions related to hand washing and other hygiene practices, refer to Module 1a (Household Water and Sanitation) of the KPC₂₀₀₀.*

WRITING THE KPC SURVEY REPORT

The KPC survey report should provide a detailed description of the study, present survey findings, and discuss the programmatic implications of those findings. Individuals who were not involved with the study should be able to read the report and get a good sense of the process and methods, not just the major findings.

This updated version of “Writing the Survey Report” provides recommendations on the format and content of the KPC survey report.

I. FORMAT

It is useful to present material in the following manner:

- A. Cover Page (include title, date, PVO/country, partner organizations, and author names)
- B. Acknowledgments (list all supervisors, interviewers, etc., and their titles)
- C. Table of Contents
- D. Executive Summary (written last)
- E. Background
- F. Process and Partnership Building
- G. Methods
- H. Results
- I. Discussion
- J. Bibliography
- K. Appendices

II. CONTENT

Background

This section of the report includes background information on the context in which the PVO is working. Examples of relevant information are as follows:

- project location
- characteristics of the target beneficiary population
- health, social, economic conditions within the project area
- national standards/policies regarding maternal and child health (e.g., immunization, breastfeeding, or Safe Motherhood policies)

The author(s) should also give an overview of the project, namely the following:

- goals
 - objectives
 - intervention activities
 - objectives of the KPC survey
-

Process and Partnership Building

The KPC was initially designed to be participatory, engaging local partners and stakeholders in information gathering, analysis, and decisionmaking. Participatory research is conducive to partnership and capacity building. In addition, it fosters a sense of local ownership of KPC results and greater utilization of information for local decisionmaking.

This version of the KPC report-writing guidelines stresses the importance of discussing partnership and capacity-building activities as they relate to the KPC survey. A discussion of the following would be useful:

- Methods of identifying and engaging local partners/stakeholders in the KPC
- Specific roles of local partners/stakeholders in the KPC survey
- Constraints in making the KPC process more participatory

Why Involve Local Partners/Stakeholders?

Partnership building is a dynamic and sometimes, an intensive process. When planning a KPC survey, it is important to consider the amount of time and resources needed to work with partners and build local capacity. The inclusion of local partners involves a great deal of boundary setting and negotiation between the various parties involved. Nevertheless, a commitment to partnership building in both research and project implementation is a means of consensus building and collaborative decisionmaking. This also ensures that the interests and concerns of all stakeholders are taken into account.

Methods

In the Methods section of the survey report, it is important to discuss the following:

- Questionnaire
- KPC indicators
- Sampling design
- Training
- Data collection
- Data analysis

Questionnaire:

- Questionnaire development
- Scope of the survey (topic areas covered)
- Survey length
- Versions of the questionnaire, if more than one type of respondent is sampled
- Translation into local languages

Study indicators:

- List of indicators grouped by intervention or topic area
- Definition of each indicator

The *Rapid CATCH* yields indicators that are useful to all CS projects, regardless of their intervention mix. Reporting on these core indicators is strongly encouraged by the CORE Monitoring and Evaluation Working Group. Projects are encouraged to consult the questions in the KPC2000+ modules to obtain supplemental information that is relevant to their specific project activities. In adapting the questionnaire, projects are reminded that the KPC should yield a concise and manageable set of indicators for reporting results. Additional information may be useful in developing project activities or strategies.

Sampling design:

- Type of design used (e.g., 30-cluster sampling or Lot Quality Assurance Sampling designs; parallel sampling)
- Sample size calculations
- Selection process

While 30-cluster sampling has been traditionally used with KPC surveys, it is not the only method of sampling. The survey report should discuss details of the sampling process, namely a) the type of design used; b) the process used to select clusters (if cluster sampling was used), households, and respondents; c) the number of clusters; and d) the number of interviews conducted within each cluster. It is also helpful to state any selection protocols employed during the study (e.g., what to do when there is more than one mother with a child less than two within the same household, or when the selected mother has more than one child less than two years).

Training:

- Selection of interviewers—process of selection and general profile of supervisors and interviewers (e.g., female, high-school educated, staff from partner organizations)
- Training of supervisors and interviewers (duration of training, person(s) who conducted the training, content/structure of training sessions)
- Strengthening local capacity to conduct future small-sample surveys

Data Collection:

- Average length of interview
- Number of days for data collection
- Major constraints/field problems
- Quality-control procedures

Sometimes there are unforeseen circumstances that impact the progress of fieldwork. Describe major problems encountered during the fieldwork and discuss the potential impact of those problems on data quality.

Data Analysis

- Method of data analysis (i.e., hand tabulation or computer tabulation)
 - Statistical software packages used, if any
 - Description of person(s) involved in data management/analysis (e.g., supervisors/interviewers, PVO field staff, MOH personnel)
 - Quality-control procedures (e.g., error checking during the data entry process)
 - Hand-tabulation workshops, if any
-

Results

This section of the report should present the results for each of the study indicators. It is very helpful to both readers and report writers to present findings in the form of tables and to refer to these tables within the text. For the first draft report, which is usually written in the field immediately following the survey, it is acceptable to include the frequency distributions for each of the survey's questions. In the final version of the report, it is not necessary to include frequencies for each survey question. They may, however, be included in the appendix of the report. Cross tabulation of the data by key variables (e.g., sex of child, maternal age) are encouraged. Although KPC sample sizes are typically small, cross tabulations may suggest important differences between subgroups of mothers/children that warrant further investigation. It is not necessary to present a table for each cross tabulation. However, it is helpful to report findings for any cross tabulations that are performed, even if it can only be stated that no differences were observed for certain variables. The following is an illustration of how to present cross-tabulated data.

Indicator: percentage of mothers of children age 0–23 months who know at least two signs of childhood illness that indicate the need for treatment, by maternal age group

MATERNAL KNOWLEDGE OF AT LEAST TWO SIGNS OF CHILDHOOD ILLNESS INDICATING THE NEED FOR TREATMENT					
MATERNAL AGE		YES	NO	TOTAL	PERCENT
	<25 years				
	≥25 years				
	Total				

Readers of the report should clearly understand the numerator and denominator of each indicator. It is very helpful to have a single table at the very beginning of the Results section that lists all indicators, their numerators, denominators, percents, and confidence limits. The following table is an illustration.

INDICATOR	NUMERATOR	DENOMINATOR	PERCENT	CONFIDENCE LIMITS
Percentage of children age 0–23 months who are underweight (-2 SD from the median weight-for-age, according to the WHO/NCHS reference population)				

Percentage of children age 0–23 months who were born at least 24 months after the previous surviving child				
Percentage of children age 0–23 months whose births were attended by skilled health personnel				
Percentage of mothers with children age 0–23 months who received at least two tetanus toxoid injections before the birth of their youngest child				
Percentage of children age 0–5 months who were exclusively breastfed during the last 24 hours				
Percentage of children age 6–9 months who received breastmilk and complementary foods during the last 24 hours				
Percentage of children age 12–23 months who are fully vaccinated (against the five vaccine-preventable diseases) before the first birthday				
Percentage of children age 12–23 months who received a measles vaccine				
Percentage of children age 0–23 months who slept under an insecticide-treated net (in malaria risk areas) the previous night				
Percentage of mothers with children age 0–23 months who cite at least two known ways of reducing the risk of HIV infection				
Percentage of mothers with children age 0–23 months who report that they wash their hands with soap/ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated				
Percentage of mothers of children age 0–23 months who know at least two signs of childhood illness that indicate the need for treatment				
Percentage of sick children age 0–23 months who received increased fluids and continued feeding during an illness in the past two weeks				

A WORD ABOUT CONFIDENCE LIMITS

The KPC results serve as “best estimates” of key child survival indicators. It is important to remember that estimates from any survey are associated with a certain level of error. For each indicator, the study estimate is just one value within a range of possible values. When reporting KPC results, it is helpful to state the *confidence limits*, which indicate the margin of error for each survey finding. Project staff can use confidence limits to better compare survey findings with the project’s objectives, reported national levels, or findings of other similar surveys. Below are two examples of how to use and interpret confidence limits.

Using confidence limits—Example #1

Objective: By the end of the project, 80% of infants will be fully immunized in their first year of life.

Indicator: At the end of the project, 80% of children 12–23 months will be fully immunized.

KPC result: 65% of children 12–23 months of age in the survey are fully immunized. The confidence limits are calculated as plus or minus 10%.

Conclusion: We are 95% confident that the true proportion of fully immunized children in the population is between 55% and 75% ($65\% \pm 10\%$). The best estimate of the true proportion is 65%.

Discussion: A comparison of the survey finding—including its confidence limits (the margin of error)—with the project objective indicates that the project did not achieve its objective. That is, the evidence suggests that the true proportion of fully immunized children in the population is less than 80% (the probability that 80% is the true proportion in the population, given the survey finding, is less than 5%).

The project should study other EPI findings from the survey to identify the barriers to achieving the objective. For example, low coverage of a specific antigen (e.g. measles vaccine) may be the principle barrier to full immunization. Or, there may be a high drop out rate between the first DPT (or OPV) and the third.

Using confidence limits—Example #2

Objective: By the end of the project, 80% of infants will be fully immunized in their first year of life.

Indicator: At the end of the project, 80% of children 12–23 months will be fully immunized.

KPC result: 76% of children 12–23 months of age in the survey are fully immunized. The confidence limits are calculated as plus or minus 9%.

Conclusion: We are 95% confident that the true proportion of fully immunized children in the population is between 67% and 85% ($76\% \pm 9\%$). The best estimate of the true proportion is 76%.

Discussion: A comparison of the survey finding - including its confidence limits (the margin of error) - with the project objective indicates that the survey finding is consistent with the objective. That is, there is no evidence that the true proportion of fully immunized children in the population is less than 80% (the probability that 80% is the true proportion in the population, given the survey finding, is greater than 5%).

However, the best estimate of the true proportion is lower than the objective. It is likely, therefore, that the project did not completely achieve its objective of 80% coverage. The project should study the other EPI findings to determine specific areas for improvement (low coverage of specific antigens like measles vaccine; dropout rate for DPT or OPV is higher than expected).

Confidence Limit Formulas

Confidence limits with a simple random sample (SRS)

The formula for calculating the confidence limits of a survey finding when using SRS is:

$$P = p \pm Zd \text{ where } d = \sqrt{(pq/n)}$$

$$Z = 95\% \text{ confidence} = 1.96$$

P = true proportion in the population

p = proportion found in the survey

$$q = 1 - p$$

n = size of sample or sub-sample

EXAMPLE: Assume **p** = .4, **q** = .6, **n** = 210, **z** = 1.96

$$P = p \pm Z \times \sqrt{(pq/n)}$$

$$P = p \pm .07$$

$$P = .4 \pm .07 = .33 \leq p \leq .47$$

Conclusion: We are 95% confident that the true proportion in the population is between 33% and 47%. The best estimate for the true proportion in the population is 40%.

Table 1. Confidence Limits for a Simple Random Sample:

$$P = p \pm z \sqrt{pq/n}$$

p	Sample Size (n)				
	180	210	240	270	300
0.05	±.03	±.03	±.03	±.03	±.02
.2	±.06	±.05	±.05	±.05	±.05
.4	±.07	±.07	±.06	±.06	±.06
.6	±.07	±.07	±.06	±.06	±.06
.8	±.06	±.05	±.05	±.05	±.05
.95	±.03	±.03	±.03	±.03	±.03

Confidence limits with a cluster sample

Cluster sampling methods often provide survey findings that are less precise than the findings obtained using SRS. This comes from the potential bias of sampling in groups (of households or individuals) rather than sampling individuals. Sampling in groups presents a possible bias because behavior among group members is more likely to be similar. A sample of these groups, therefore, may not be as representative of the entire population under study than a sample of randomly selected individuals. The implication of this bias is that the confidence limits of a finding from a cluster survey is often wider than the confidence limits of a finding from a SRS, all other things being equal.

Calculating cluster survey confidence limits by computer: Computer software programs such as Epi Info can easily calculate the confidence limits for a finding from a cluster survey. Note that computerized survey forms need to have a field identifying the cluster (cluster id) the respondent belongs to, in order to calculate confidence limits by computer.

Calculating cluster survey confidence limits by hand: The formula for calculating the confidence limit of a cluster survey finding by hand is:

$$P = p \pm z \sqrt{pq/n_e}, \text{ where } n_e = \text{the effective sample size of the sample or sub-sample}$$

Effective Sample Size (n_e) = n/e , where:

n = size of survey sample or sub-sample

e = *design effect*. The design effect is a value corresponding to how much the cluster survey departs from the assumptions of a simple random sample. The design effect is used to correct the value of **n** used to calculate the confidence limit of a cluster survey.

Design Effect—In order to calculate the confidence limit by hand, projects usually estimate the value of the design effect. This is because the formula for calculating the design effect is difficult to do by hand and is most often done by computer. For the variables in the KPC survey, the design effect usually ranges in value between 1 and 2. Projects can estimate the confidence limit of a finding with the following methods:

1. First, calculate the confidence limit of a finding assuming the design effect is 1 (no difference in precision between cluster sampling and a simple random sample). Second, calculate the confidence limit again, this time assuming that the design effect is 2 (the cluster survey sample size needs to be twice as large to maintain the precision of a simple random sample). Third, report both confidence limits as the range of possible values.
2. Calculate the confidence limit of a finding assuming the design effect is 2 (the cluster survey sample size needs to be twice as large to maintain the precision of a simple random sample). This is a conservative estimate as the true design effect will often be less than 2.
3. If confidence limits for the same or similar finding are available from other local cluster surveys (e.g. EPI Cluster Survey): use the design effect reported for that survey to calculate the confidence limit. Report the source of data for the design effect value used in the survey report.

EXAMPLE: Assume $p = .4$, $q = .6$, $n = 210$, **design effect (e) = 2**, $z = 1.96$

$$\begin{aligned}
 P &= p \pm Z \times \sqrt{pq/n} \\
 P &= p \pm 1.96 \times \sqrt{(.6 \times .4)/(210/2)} \\
 P &= p \pm 1.96 \times \sqrt{.24/105} \\
 P &= p \pm .09 \\
 P &= .4 \pm .09 = .31 \leq p \leq .49
 \end{aligned}$$

Conclusion: We are 95% confident that the true proportion in the population is between 31% and 49%. The best estimate for the true proportion in the population is 40%.

**Table 2. Confidence Limits for a Cluster Survey:
Assume Design Effect = 1.5**

n (n_c = n/1.5)

p	180 (120)	210 (140)	240 (160)	270 (180)	300 (200)
.05	±.04	±.04	±.03	±.03	±.03
.2	±.07	±.07	±.06	±.06	±.06
.4	±.09	±.08	±.08	±.07	±.07
.6	±.09	±.08	±.08	±.07	±.07
.8	±.07	±.07	±.06	±.06	±.06
.95	±.04	±.04	±.03	±.03	±.03

**Table 3. Confidence Limits for a Cluster Survey:
Assume Design Effect = 2**

n (n_c = n/2)

P	n (n_c)				
	180 (90)	210 (105)	240 (120)	270 (135)	300 (150)
.05	± 0.05	± .04	± .04	± .04	± .03
.2	± .08	± .08	± .07	± .07	± .06
.4	± .10	± .09	± .09	± .08	± .08
.6	± .10	± .09	± .09	± .08	± .08
.8	± .08	± .08	± .07	± .07	± .06
.95	± .05	± .04	± .04	± .04	± .03

Discussion

In the Discussion, authors are encouraged to do the following:

1. relate key findings from the KPC survey to data from other sources
2. discuss the programmatic implications of the survey findings
3. present an action plan for community feedback and dissemination of findings

1. External comparisons

Examples of useful data sources to compare with the KPC are:

- Demographic and Health Survey data for the country in which you are working
- Other local surveys
- Ministry of Health (MOH) statistics
- MOH objectives or standards
- PVO's own project objectives
- Reported national data
- WHO/UNICEF objectives or standards

2. Programmatic Implications

After presenting results and comparing survey data to other comparable data, discuss the implications for the project. Recommendations can be included.

3. Information Dissemination

Describe planned and/or completed activities for feedback of the survey results to communities, the MOH, USAID, and other relevant parties. Immediate feedback following the survey ensures that survey findings are shared at a time when there is peak interest in the findings. It is unlikely that interest in the survey findings will be high if the PVO waits several weeks or months after the survey to provide feedback. If the first draft of the survey report is completed within several days following the survey, then it will be available for handing out at feedback sessions that take place immediately following the survey.

Projects are encouraged to make arrangements for feedback during initial preparations for the survey. If arrangements are not made well in advance, it will be difficult to bring together persons who want to discuss the survey findings immediately after the survey. Once interest in the survey lowers, it will be even more difficult to bring groups together for feedback meetings.

Bibliography

This section will help readers to repeat the methodology for other surveys. Include in this section the source of population data and other sources drawn from for the survey methodology, and for comparison data used in the Discussion section of the report. Other useful references (survey research texts, journal articles, manuals, or other publications) can also be listed.

Appendices

The following list of appendices will help readers of the report to answer additional questions that they may have after reading the formal report:

- Manual tabulation tables or computer tables (raw data) for each question;
- Population data used to select 30-clusters (or other units of selection if cluster sampling was not used)
- Survey questionnaire in both English and the local language
- A list of persons involved in the survey and in which capacity
- Training schedule for supervisors and interviewers
- Project resource requirements of the survey, namely monetary costs and amount of staff time devoted to KPC activities

Rapid Knowledge, Practices and Coverage (KPC) Survey

INFORMED CONSENT AND COVER PAGE

INTERVIEWER INSTRUCTIONS

INFORMED CONSENT

Before interviewing a mother, you must get her consent to conduct the interview. You will read the informed consent exactly as it is written at the top of page three. This statement explains the purpose of the survey and the voluntary nature of the respondent's participation, then seeks her cooperation. After reading the statement, you (not the respondent) must sign the space provided to affirm that you have read the statement to the mother. Circle '1' if the mother agrees to be interviewed and proceed to the modules. If the mother does not agree to be interviewed, circle 2, thank her for her time, and end the interview.

COVER PAGE, BOX 1: IDENTIFICATION NUMBERS

Information recorded in the identification box is the only means of linking data on the same mother and child across the survey's modules. In addition to the box that appears on the cover page, there is an identification box at the top of every module of the survey. It is important that you record the necessary information before asking the mother questions. Your supervisor will provide you with the appropriate identification numbers for each cluster, household, and respondent (record).

COVER PAGE, BOX 2: INTERVIEW/INTERVIEWER INFORMATION

In Box 2, you will fill out the date the interview is conducted, recording the day, then month, then year in the boxes provided. Next you will record your name, your supervisor's name, and the name of the community in which you are conducting the interview.

COVER PAGE, BOX 3: RECORDING MOTHER'S INFORMATION

Record the mother's full name in the space provided, then obtain her age in completed years, that is, her age at her last birthday. It is important that you record an age for the mother, and you can do this in one of three ways, depending on the type of information you get from her.

- 1) If the woman knows her age, simply write it in the space provided.
- 2) If the woman does not know her age, but knows her year of birth, use the following conversion chart to determine her current age:

YEAR OF BIRTH	CURRENT AGE	
	Has not had birthday in 2000	Has already had birthday in 2000
1990	9	10
1989	10	11
1988	11	12
1987	12	13
1986	13	14
1985	14	15
1984	15	16
1983	16	17
1982	17	18
1981	18	19
1980	19	20
1979	20	21
1978	21	22
1977	22	23
1976	23	24
1975	24	25
1974	25	26

YEAR OF BIRTH	CURRENT AGE	
	Has not had birthday in 2000	Has already had birthday in 2000
1970	29	30
1969	30	31
1968	31	32
1967	32	33
1966	33	34
1965	34	35
1964	35	36
1963	36	37
1962	37	38
1961	38	39
1960	39	40
1959	40	41
1958	41	42
1957	42	43
1956	43	44
1955	44	45
1954	45	46

1973	26	27
1972	27	28
1971	28	29

1953	46	47
1952	47	48
1951	48	49
1950	49	50

- 3) If the mother does not know her age or her year of birth, you will have to probe to try to estimate her age. For example, ask her how old she was when she got married or had her first child, and then try to estimate how long ago she got married or had her first child. For example, if the mother says she was 19 years old when she had her first child, and that the child is now 12 years old, she is probably 31 years old.

RECORDING INFORMATION ON THE YOUNGEST CHILD LESS THAN TWO YEARS OF AGE

It is very important that you identify the mother's youngest child less than two years of age. It is that child for whom you will collect information.

RECORDING SEX OF CHILD

In order to explore gender differences, it is important that information on the sex of the child is recorded. This information, in addition to child's age, will also be recorded at the top of every module in the survey.

RECORDING AGE OF CHILD

For surveys that pertain to infants and young children, ages are often reported in months. In these cases, it is suggested that complete age (age at last birthday) in months is used. For example, if a child is 50 days old, the age reported on the survey is 1 month. A child who was born less than four weeks before the interview would be reported as 0 months old because he/she has not yet completed the first month of life.

You will first ask the mother for her child's date of birth, and you will record this information (day, month, then year) in the boxes provided.

In places where birth and death registration documents are available, you can simply copy the information that appears on the document. Children born in a clinic or a hospital may also have a record of BCG vaccination. Interviewers tend not to ask people for documents if they expect they will not have them. It is important, however, that interviewers ask to see all relevant documents each time they conduct an interview.

It is difficult to determine exact age in areas where birth registration is not common and/or where the exact date of birth is rarely required for official documents. In light of possible inaccuracies in the reporting of child's age, it is suggested that tabulations be limited to broad age groups, for example, 0-11 months, 12-23 months. Some mothers may not remember the child's date of birth but may have a general indication of his or her age. In some instances, the mother may specify that the child is "1 year old." It is sometimes helpful to clarify by asking the mother if the child has completed the first year (had a first birthday) or whether he has almost completed the first year. Use an appropriate local events calendar to assist the mother in determining whether her child is past his/her first or second birthday.

INFORMED CONSENT

Hello. My name is _____, and I am working with (NAME OF ORGANIZATION). We are conducting a survey and would appreciate your participation. I would like to ask you about your health and the health of your youngest child under the age of two. This information will help (NAME OF ORGANIZATION) to plan health services and assess whether it is meeting its goals to improve children's health. The survey usually takes _____ minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED 1 RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2 |END
?

COVER PAGE FOR REVISED KNOWLEDGE, PRACTICES AND COVERAGE (KPC) SURVEY

IDENTIFICATION	
CLUSTER NUMBER	
HOUSEHOLD NUMBER	
RECORD NUMBER	

ALL QUESTIONS ARE TO BE ADDRESSED TO MOTHERS WITH A CHILD LESS THAN 24 MONTHS OF AGE

INTERVIEW DATE	DAY	RESCHEDULE INTERVIEW	____/____/____ (dd/mm/yy)
	MONTH		
	YEAR		
INTERVIEWER'S NAME _____			
SUPERVISOR'S NAME _____			
COMMUNITY _____			

NAME OF THE MOTHER _____	NAME OF YOUNGEST CHILD LESS THAN 24 MONTHS _____
AGE OF THE MOTHER (IN YEARS)	SEX OF CHILD (1=MALE, 2=FEMALE)
	DATE OF BIRTH
	DAY
	MONTH
	YEAR
	AGE OF THE CHILD (IN MONTHS)

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 1A: HOUSEHOLD WATER AND SANITATION**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

Module 1A consists of ten questions on household water and sanitation. Question 10 is highlighted to indicate that the same question also appears in the *Rapid CATCH*.

ASKING QUESTIONS AND RECORDING ANSWERS

In this module, most of the information that you will record is based upon answers directly provided by the mother. One exception is Question 9, for which you will assess the quality of the household's hand-washing facility. For all other questions, you will ask the mother for information about her household. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

FILLING IN IDENTIFICATION INFORMATION

Before you begin to ask the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. You can find this information on the cover page of the survey.

Q.1: MONTH OF INTERVIEW

The availability of water may vary throughout the year. In Question 1, record the month of the interview.

Qs. 2 and 3: SOURCE OF DRINKING WATER

The purpose of Question 2 is to assess the cleanliness of the household's drinking water. If drinking water is obtained from several sources, probe to determine the source from which the household obtains the majority of its drinking water. Record the main source used at the time of interview. In Question 3 you will note whether water is available from this source throughout the year.

Q.4: TOILET FACILITIES

As with Question 2, the purpose of this question is to obtain a measure of the sanitation level of the household, since water supply and toilet facilities are important for disease control and health improvement.

A FLUSH toilet is one in which water carries the waste down pipes, whether the water is piped into the toilet or poured in by buckets. A ventilated pit (VIP) is a latrine which has been improved by the addition of some kind of construction (usually a pipe) that provides a route for fumes to escape, other than the hole itself. A traditional pit toilet is not ventilated. If the mother answers that she uses the bush, the fields, or a cleared corner of the compound, circle 31 [NO FACILITY/BUSH/FIELD].

Note that Question 4 asks what toilet facilities most members of the household use, not what facilities the household owns. If the household owns a latrine, but most members use the field, circle 31 for NO FACILITY/BUSH/FIELD.

Q.5: SHARED FACILITY

In Question 5, you will find out if the toilet is shared with any other household.

Q.6: DISPOSAL OF BABIES' STOOLS

Correct disposal of stools can reduce the risk of disease transmission. Mothers are asked where they usually dispose of their children's stools if the child did not use a toilet facility. Circle the most appropriate code.

Q.7: GARBAGE DISPOSAL

In addition to human excreta disposal, the way in which the household's garbage is disposed can have a major impact on the risks of

infectious diseases. This question inquires about the household's method of garbage disposal.

Q.8: HAND-WASHING FACILITY

Hand washing is one behavior that can substantially reduce the risk of disease transmission. In Question 8, ask the mother if the household has a special place for hand washing.

Q.9: INSPECTION OF HAND WASHING FACILITY

If the mother answers that her household has a designated place for hand washing, ask to see the place. If she consents, inspect the area and note whether the following items are present (YES) or absent (NO): a) water/tap; b) soap, ash, or other cleansing agent; c) basin.

Q.10: HAND-WASHING PRACTICES

The existence of a hand-washing facility will not reduce the risk of disease if individuals do not practice appropriate hand-washing behavior. In Question 10, you will ask the mother when she washes her hands with soap/ash. Do not probe for an answer. Notice that the codes here are letters of the alphabet rather than numbers. Letter codes are used to remind you to circle all responses which apply. This question also appears in the *Rapid CATCH*.

SKIP PATTERNS FOR HOUSEHOLD WATER AND SANITATION MODULE

It is very important that you ask the mother only those questions that are relevant to her situation. For example, if a mother reports that her household does not have a special place for hand washing, then you will not take an inventory of items present at the special place for hand washing. Skip instructions are located in the far right-hand column of the questionnaire. There are two skip patterns within the Household Water and Sanitation Module.

Question	Response	Instructions
Q.4 "What kind of toilet facility do most members of your household use?"	flush (11), traditional (21), VIP (22) no facility/bush/field (31)	Go to Q.5 SKIP TO Q.6
Q.8 "Does your household have a special place for hand washing?"	yes (1) no (2)	Go to Q.9 SKIP TO Q.10

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C How do most households in this community store water?
- C What can be done to improve the living conditions within this community?
- C What are some ways to prevent spreading diseases?
- C Examples of other topics to explore:
 1. seasonality of water supply
 2. sanitation around public wells, surface water
 3. sources and availability of soap and other cleansing agents (factory made? small-enterprise cottage industry?)

IDENTIFICATION	
CLUSTER NUMBER	111
HOUSEHOLD NUMBER	111
RECORD NUMBER	111

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	RECORD MONTH IN WHICH INTERVIEW IS BEING CONDUCTED.	JANUARY 1 FEBRUARY 2 MARCH 3 APRIL 4 MAY 5 JUNE 6 JULY 7 AUGUST 8 SEPTEMBER 9 OCTOBER 10 NOVEMBER 11 DECEMBER 12	
2	First I would like to ask some questions about your household. What is the main source of drinking water for members of your household?	PIPED WATER PIPED INTO DWELLING/ YARD/PLOT 11 PUBLIC TAP 12 WATER FROM OPEN WELL OPEN WELL IN DWELLING YARD/PLOT 21 OPEN PUBLIC WELL 22 WATER FROM COVERED WELL OR BOREHOLE PROTECTED WELL IN DWELLING/ YARD/PLOT 31 PROTECTED PUBLIC WELL 32 SURFACE WATER SPRING/RIVER/STREAM 41 POND/LAKE/DAM 42 RAINWATER 51 OTHER _____ 96 (SPECIFY)	
3	Do you get your drinking water from this source throughout the year?	YES 1 NO 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
4	What kind of toilet facility do most members of your household use?	FLUSH TOILET 11 PIT TOILET/LATRINE TRADITIONAL PIT TOILET 21 VENTILATED IMPROVED PIT (VIP) LATRINE 22 NO FACILITY/BUSH/FIELD 31 OTHER _____ 96 (SPECIFY)	<6
5	Do you share this facility with other households?	YES 1 NO 2	
6	What happens with the stools of babies and young children in your household who do not use the toilet facility?	THROWN IN TOILET/LATRINE 1 BURIED IN YARD 2 NOT DISPOSED OF/LEFT ON THE GROUND 3 OTHER _____ 96 (SPECIFY)	
7	What do you do with your garbage?	OPEN PIT 11 CLOSED PIT 21 ANYWHERE 31 BURNING 41 GARBAGE COLLECTOR 51 OTHER _____ 96 (SPECIFY)	
8	Does your household have a special place for hand washing?	YES 1 NO 2	<10
9	ASK TO SEE THE PLACE USED MOST OFTEN FOR HAND WASHING AND OBSERVE IF THE FOLLOWING ITEMS ARE PRESENT	<div style="text-align: right;">YES NO</div> (A) WATER/TAP 1 2 (B) SOAP, ASH OR OTHER CLEANSING AGENT 1 2 © BASIN 1 2	
10	When do you wash your hands with soap/ash? RECORD ALL MENTIONED.	NEVER A BEFORE FOOD PREPARATION B BEFORE FEEDING CHILDREN C AFTER DEFECACTION D AFTER ATTENDING TO A CHILD WHO HAS DEFECAED E OTHER _____ X (SPECIFY)	

TABULATION PLAN

This module provides information on household water and sanitation as well as on maternal hand-washing behavior. Table 1A-1 presents a list of key indicators that can be derived from Module 1A. Note that although mothers are asked questions, most of the indicators are defined in terms of households. Since only one mother with a child less than two years is interviewed per household, the number of mothers is equal to the number of households.

TABLE 1A-1: WATER AND SANITATION INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>Safe Drinking Water</i>	Percent of households with drinking water from piped water source or covered well $\frac{\text{No. of households with response=11, 12, 31, or 32 for Q.2}}{\text{Total no. of surveyed households}} \times 100$
<i>Sanitary Excreta Disposal</i>	Percent of households with access to a flush toilet $\frac{\text{No. of households with response= 11 for Q.4}}{\text{Total no. of surveyed households}} \times 100$
<i>Hand-washing Facility</i>	Percent of households with a special place for hand washing $\frac{\text{No. of households with response=1 for Q.8}}{\text{Total no. of surveyed households}} \times 100$
<i>Maternal Hand Washing</i>	Percent of mothers who wash their hands before food preparation, before infant/child feeding, after defecation, and after attending to a child who has defecated $\frac{\text{No. of mothers with responses= B, C, D, and E for Q.10}}{\text{Total no. of mothers with responses for Q.10}} \times 100$

The KPC can be tabulated either manually or by computer. Table 1A-2 is an example of a hand tabulation table for Question 4. As seen in the table, a check mark (T) can be placed in the row of the category that matches the mother's response.

**TABLE 1A-2
TYPE OF HOUSEHOLD TOILET FACILITY**

TYPE OF TOILET FACILITY		CHECK MARKS (T)	FREQUENCY	PERCENT
11	FLUSH TOILET			
21	TRADITIONAL PIT TOILET			
22	VENTILATED IMPROVED PIT (VIP) LATRINE			
31	NO FACILITY/ BUSH/FIELD			
96	OTHER			
TOTAL NUMBER OF HOUSEHOLDS SURVEYED				100.0

REFERENCES FOR SURVEYS WITH ITEMS ON WATER AND SANITATION

Listed below are other surveys with questions, sections, or modules on water and sanitation that may be of assistance when modifying the KPC to meet the needs of your particular project.

- (1) Christian Children's Fund-Angola (1999). *KPC Questionnaire* (Qs. PB03-PB05).
- (2) ORC Macro (2000). *Model A Questionnaire with Commentary for High Contraceptive Prevalence Countries* (Qs.21-24 and 33-34 of the Household Questionnaire; Qs. 485 and 495 of the Woman's Questionnaire).
- (3) Project Hope (1999). Kasungu Child Survival and Mother Care Programme Baseline Survey, Questionnaire for mother/caretaker (Qs. 74-85).
- (4) SAVE/Vietnam. *Spot Observation Checklist*.
- (5) UNICEF (1995). *Multiple Indicator Cluster Survey* (Water and Sanitation Module).

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 1B: RESPONDENT BACKGROUND INFORMATION**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

Module 1B is comprised of seven questions that relate to important background characteristics.

ASKING QUESTIONS AND RECORDING ANSWERS

In this module, all of the information that you will record is based upon answers directly provided by the mother. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

FILLING IN IDENTIFICATION INFORMATION

Before you begin to ask the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey.

Q.1: MATERNAL EDUCATION

The term "school" means formal schooling, which includes primary, secondary, and post-secondary schooling, as well as any other intermediate levels of schooling in the formal school system. This definition of school does not include Bible or Koranic school or short courses like typing or sewing. However, it does include technical or vocational training beyond the primary-school level, such as long-term courses in mechanics or secretarial work. If the mother reports that she has never attended school, record '00'. In all other instances, record the number of completed years.

Qs.2 and 3: SPOKEN LANGUAGES IN HOUSEHOLD

Information on common languages/dialects within the project area may be useful in developing information, education, and communication (IEC) strategies and materials. Questions 2 and 3 document languages spoken by the respondent.

Qs.4 and 5: BIOLOGICAL FATHER AND HEAD OF HOUSEHOLD

These questions provide information on the structure of the household.

Q.6: MATERNAL EMPLOYMENT

In this question, you are not asking about housework but about other work a woman may do. More specifically, Question 6 inquires about paid work outside the home. If the mother does not work outside the home to earn money, circle A [NO OUTSIDE WORK]. If she works for pay outside of the home, ask her about the type of work. Circle all responses that are mentioned. Notice that the response codes are letters of the alphabet rather than numbers. Letter codes are used to remind you to circle all responses which apply.

Q.7: CHILD CARE WHILE AWAY FROM HOME

For mothers who work outside of the home, Question 7 asks who cares for (NAME) while the mother is away from the home.

SKIP PATTERNS FOR RESPONDENT BACKGROUND MODULE

It is very important that you ask the mother only those questions that are relevant to her situation. For example, if a mother reports that she does not work outside of the home, then you will not ask her who takes care of the child when she is away from home. Skip instructions are located in the far right-hand column of the questionnaire. There is only one skip pattern within the Respondent Background Information Module.

Question	Response	Instructions
Q.6 "Do you work outside of the home	NO OUTSIDE WORK (A)	END MODULE

to earn money?"

ALL OTHER RESPONSES

Go to Q.7

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C What are the reasons why some women do not attend school?
- C In this community, how do women generate income?
- C How do mothers that work outside the home take care of their babies?
- C Who in your family usually has the final say on the following decisions: health care? types of foods that are eaten? visits to family, friends, or relatives?
- C Who is responsible for the child's food? clothing? health care? school fees?

IDENTIFICATION

CLUSTER NUMBER

HOUSEHOLD NUMBER

RECORD NUMBER



RESPONDENT BACKGROUND CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	For how many years have you attended school? ¹ IF NEVER, RECORD '00'.	YEARS IN SCHOOL	
2	What languages ² do you speak?	_____ _____ _____	
3	In what language do you feel most comfortable communicating?	_____	
4	Does (NAME'S) biological father live in this household?	YES 1 NO 2 DON'T KNOW 8	
5	Who is the head of this household?	MOTHER (RESPONDENT) 1 HUSBAND/ PARTNER 2 FEMALE RELATIVE 3 (SPECIFY) MALE RELATIVE 4 (SPECIFY) OTHER 7 (SPECIFY)	
6	Do you work outside of the home to earn money? IF NO, CIRCLE "A" (NO OUTSIDE WORK) IF YES, What kind of work do you do?	NO OUTSIDE WORK A HANDICRAFTS B HARVESTING C SELLING FOODS D SHOP KEEPER/STREET VENDOR E SERVANT/HOUSEHOLD WORKER F SALARIED WORKER G OTHER X (SPECIFY)	<END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
7	Who takes care of (NAME) when you are away from home?	MOTHER (RESPONDENT) A HUSBAND/PARTNER B OLDER CHILDREN C OTHER RELATIVES D (SPECIFY) NEIGHBORS/FRIENDS E MAID F NURSERY SCHOOL G OTHER X (SPECIFY)	

- ¹ PVOs interested in documenting literacy rates could include an optional question in which the respondent reads simple phrases. For an illustration, refer to Q. 111 of the Woman's Questionnaire (*MEASURE DHS+ Basic Documentation: Model "A" or "B" Questionnaire*).

- ² PVOs should develop a list of responses that reflect common languages/dialects within their project area.

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 2: BREASTFEEDING AND INFANT/CHILD NUTRITION**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

Module 2 consists of eleven questions on breastfeeding and infant/child nutrition. Questions 1 and 2 are highlighted to indicate that they also appear in the KPC 2000 *Rapid CATCH*. A much simpler version of Question 8 also appears in the *Rapid CATCH*.

ASKING QUESTIONS AND RECORDING ANSWERS

With the exception of question 10, all questions in this module are based upon maternal recall. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

Most questions have precoded responses. It is important that you do not read these choices aloud to the mother. When you ask a question, you should listen to the mother's answer, then circle the code next to the category that best matches her answer.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age and sex in the second set of boxes.

Q.1: EVER BREASTFED CHILD

In this question, it does not matter how long the mother breastfed the child, only whether or not she ever gave the child the breast. This question also appears in the *Rapid CATCH*.

Q.2: WHEN BREASTFEEDING BEGAN

Immediate breastfeeding ensures that the infant begins to reap the nutritional and antiviral/antibacterial benefits of the mother's colostrum. Colostrum is yellow and thicker than the later milk, and it contains more antibodies and white blood cells. It gives the infant protection against bacteria and viruses that he/she may encounter. Immediate breastfeeding also ensures that body warmth is maintained after delivery. In Question 2, record whether the baby was breastfed within the first hour of life or after the first hour of life. This question also appears in the *Rapid CATCH*.

Qs. 3, 4, & 5: COLOSTRUM (FIRST MILK) AND PRELACTEAL FEEDS

For approximately three days after delivery, the breasts secrete colostrum. There are some communities that believe colostrum is not good for infants and do not allow them to have colostrum. Fluids and/or solids given to infants in the first few days after delivery are called prelacteal feeds. They may introduce pathogens that cause diarrhea and other diseases. Prelacteal feeds are given during the period when the colostrum is produced prior to the free flow of the mother's mature milk and rob the infant of this important health protecting substance. Question 3 assesses whether mothers who breastfeed their children give the colostrum. Mothers are then asked whether the infant was given any prelacteal feeds (Q.4) and if so, what was given (Q.5).

Q. 6: CURRENTLY BREASTFEEDING

For Question 6, it does not matter if the mother is giving (NAME) other liquids or foods as well as breastmilk; what is of interest is if the child is breastfeeding at all.

Q.7: DURATION OF BREASTFEEDING

This question is for mothers who are no longer breastfeeding the child in question. It is important to try to get as accurate information as possible. If the mother says she cannot remember how long she breastfed (NAME), urge her to think about it for a while, or ask her if she remembers how old (NAME) was when she completely stopped breastfeeding him/her. If the mother gives an approximate

answer, such as “about one year,” establish if it was exactly one year or how much more or less.

Record the number of months when the mother completely stopped breastfeeding the child. It does not matter if she was giving the child other liquids or foods in addition to breastmilk; you are simply recording for how many months she breastfed the child.

Qs. 8 & 9: LIQUIDS AND FOODS GIVEN YESTERDAY

The purpose of these questions is to obtain a better picture of the variety of the child's diet. You will ask the mother about the types of liquids and foods given to her child the day preceding the interview. Items are grouped according to whether they are liquids or solids/semi-solids. Read the question slowly and then read the items in the list. Wait for the mother's response and record whether the child ingested each item (or set of items).

If no item in a category was given at all in the day preceding the interview, leave the box blank and go on to the next category.

Q. 10: TYPE OF SALT

The purpose of this question is to assess whether the household uses salt that has been fortified with iodine in cooking. Fortified salt prevents iodine deficiency. Iodine is an important micronutrient and a lack of it may lead to an enlarged thyroid gland in the neck known as goiter.

An iodine testing kit is required in order to assess the iodine content of the household's cooking salt. Ask the respondent for a sample of cooking salt in a spoon (a quantity of about one half teaspoon). If the household uses more than one type of salt, make sure that the sample provided is the salt that the household uses for cooking.

SKIP PATTERNS FOR BREASTFEEDING AND INFANT/CHILD NUTRITION MODULE

It is very important that you ask the mother only those questions that are relevant to her situation. For example, if a mother never breastfed (NAME) you should not ask her how long after birth she put (NAME) to the breast. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. There is only one skip pattern within the Breastfeeding and Infant/Child Nutrition Module.

Question	Response	Instructions
Q.1: “Did you ever breastfeed (NAME)?”	yes (1) no (2)	Go to Q.2 SKIP TO Q.8
Q.4: “During the first three days after delivery, did you give (NAME) anything to eat or drink before feeding him/her breastmilk?”	yes (1) no (2); don't know (8)	Go to Q.5 SKIP TO Q.6
Q.6: “Are you currently breastfeeding?”	yes (1) no (2)	SKIP TO Q.8 Go to Q.7

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C In this community, what do mothers usually feed their babies right after they are born?
- C Why should a woman breastfeed her baby?
- C What are the reasons why some mothers do not breastfeed?
- C Why do some women exclusively breastfeed their children and others choose not to?
- C What can be done to encourage women to exclusively breastfeed their babies for the first six months of life?
- C What foods are usually given to babies during the first two years of life?
- C How do women who work outside of the home manage to feed their babies?

The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to breastfeeding. As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena

that were identified but not sufficiently explained by the KPC.

IDENTIFICATION	
CLUSTER NUMBER	
HOUSEHOLD NUMBER	
RECORD NUMBER	

AGE OF CHILD (IN MONTHS)	
SEX OF CHILD (1=MALE, 2=FEMALE)	

BREASTFEEDING AND INFANT/CHILD NUTRITION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Did you ever breastfeed (NAME)?	YES 1 NO 2	<8
2	How long after birth did you first put (NAME) to the breast? ¹	IMMEDIATELY/WITHIN FIRST HOUR AFTER DELIVERY 1 AFTER THE FIRST HOUR 2	
3	During the first three days after delivery, did you give (NAME) the liquid ² that came from your breasts?	YES 1 NO 2 DON'T KNOW 8	
4	During the first three days after delivery, did you give (NAME) anything else to eat or drink before feeding him/her breastmilk?	YES 1 NO 2 DON'T KNOW 8	<6 <6
5	What did you give (NAME)? Anything else? RECORD ALL MENTIONED.	MILK (OTHER THAN BREAST MILK) A PLAIN WATER B SUGAR OR GLUCOSE WATER C GRIPE WATER D SUGAR-SALT-WATER SOLUTION E FRUIT JUICE F INFANT FORMULA G TEA/INFUSIONS H HONEY I OTHER X (SPECIFY)	
6	Are you currently breastfeeding (NAME)?	YES 1 NO 2	<8
7	For how long did you breastfeed (NAME)? IF LESS THAN ONE MONTH, RECORD '00' MONTHS.	MONTHS	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
8	<p>Now I would like to ask you about the types of liquids [NAME] drank yesterday during the day and at night.³</p> <p>Did [NAME] drink any of the following liquids yesterday during the day or at night?</p> <p>PLACE A CHECK MARK IN BOX IF CHILD DRANK THE LIQUID IN QUESTION.</p> <p>A Breastmilk?</p> <p>B Plain water?</p> <p>C Commercially produced infant formula?</p> <p>D Any other milk such as tinned, powdered, or fresh animal milk?</p> <p>E Fruit juice?</p> <p>F Any other liquids such as sugar water, tea, coffee, carbonated drinks, or soup broth?</p>	<p>A <input type="checkbox"/></p> <p>B <input type="checkbox"/></p> <p>C <input type="checkbox"/></p> <p>D <input type="checkbox"/></p> <p>E <input type="checkbox"/></p> <p>F <input type="checkbox"/></p>	
	<p>Now I would like to ask you about the types of foods⁴ [NAME] ate yesterday during the day and at night.</p> <p>Did [NAME] eat any of the following foods yesterday during the day or at night?</p> <p>PLACE A CHECK MARK IN BOX IF CHILD ATE THE FOOD IN QUESTION.</p> <p>G Any food made from grains [e.g. millet, sorghum, maize, rice, wheat, porridge, or other local grains]?</p> <p>H Pumpkin, red or yellow yams or squash, carrots, or red sweet potatoes?</p> <p>I Any other food made from roots or tubers [e.g. white potatoes, white yams, manioc, cassava, or other local roots/tubers]?</p> <p>J Any green leafy vegetables?</p> <p>K Mango, papaya [or other local Vitamin A rich fruits]?</p> <p>L Any other fruits and vegetables [e.g. bananas, apples/sauce, avocados, tomatoes]?</p> <p>M Meat, poultry, fish, shellfish, or eggs?</p> <p>N Any foods made from legumes [e.g. lentils, beans, soybeans, pulses, or peanuts]?</p> <p>O Cheese or yoghurt?</p> <p>P Any food made with oil, fat, or butter?</p>	<p>G <input type="checkbox"/></p> <p>H <input type="checkbox"/></p> <p>I <input type="checkbox"/></p> <p>J <input type="checkbox"/></p> <p>K <input type="checkbox"/></p> <p>L <input type="checkbox"/></p> <p>M <input type="checkbox"/></p> <p>N <input type="checkbox"/></p> <p>O <input type="checkbox"/></p> <p>P <input type="checkbox"/></p>	
9	<p>How many times did (NAME) eat semi-solid (mashed or pureed) food yesterday during the day or at night?</p> <p>IF 7 OR MORE TIMES, RECORD '7'.</p>	<p>NUMBER OF TIMES <input type="checkbox"/></p> <p>DON'T KNOW 8</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
10	May I see the salt that is used for cooking? ⁶ TAKE A TEASPOONFUL OF SALT AND TEST SALT FOR IODINE.	IODINE PRESENT 1 IODINE NOT PRESENT 2	
11	Did (NAME) receive a vitamin A dose like this during the last 6 months? ⁷ SHOW AMPULE/CAPSULE/SYRUP.	YES 1 NO 2 DON'T KNOW 8	

¹ Module 5B contains a question that inquires about what was done with the baby immediately after birth.

² PVOs should use the local term for colostrum, if such a term exists.

³ A simplified version of this question appears in the *Rapid CATCH*.

⁴ The following separate food categories can be added in project areas where these foods are fed to children: commercially prepared baby food; chicken/beef liver, tripe, other organ meats; grubs, snails, insects, other small protein food.

⁵ Items in this category should be modified to include only vitamin A rich tubers or starches that are consumed in the project area.

⁶ This question requires the use of an iodine testing kit. There are many different kinds of iodine testing kits available. The proper test kit should be selected in each country depending on the type of iodine additive used in the country and the gradations (in PPM) required. The response categories should be modified to be consistent with the particular test kits used.

⁷ This question also appears in the module on immunization (Module 4A). Module 5C contains a question about maternal supplementation.

ADDITIONAL NOTE ABOUT QUESTION 8 (DIETARY RECALL)

To develop preventive and curative strategies for childhood malnutrition, dietary intake needs to be accurately measured. Such a measurement is based on information provided by mothers including the types of foods a child eats and how often. Optimal feeding of children over six months of age requires a diverse diet adequate in macro and micronutrients. For most nutrients, a 24-hour recall is sufficient to capture the usual dietary intake of children less than three years (who usually consume a less varied diet than older children or adults). However, a larger number of days is required for nutrients such as vitamins A and B and fats. For illustrations of food frequency questions, consult the documents by MEASURE *DHS+* and Helen Keller International (by Rosen et al.) that appear in the list of references at the end of this module.

TABULATION PLAN

Module 2 yields information on breastfeeding and infant/child nutrition practices within the target community. Table 2-1 presents a list of key indicators that can be derived from this module. PVOs should select those indicators which are of relevance to their specific project activities. Additional indicators may also need to be devised. When developing indicators, it is suggested that PVOs take national policies on infant/child feeding into account.

Age-specific indicators (e.g., percent of 0-5 month-olds who receive breastmilk only) are calculated using the age information recorded at the top of the questionnaire. These indicators are based upon "completed months". For example, the current international standard for exclusive breastfeeding is the provision of breastmilk only until about six months of age. The exclusive breastfeeding indicator therefore includes children aged 0, 1, 2, 3, 4, and 5 completed months.

The old international standard was breastmilk only until four months of age (i.e., from ages 0-3 months). Many PVOs have calculated the exclusive breastfeeding rate based upon this older standard. As a result, PVOs may wish to calculate two exclusive breastfeeding rates: one that reflects the current "0-5 months" standard and a second that reflects the "0-3 months" standard, which can be compared to data from previous years.

TABLE 2-1: BREASTFEEDING AND CHILD NUTRITION INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>Breastfeeding Initiation</i>	Percent of children aged 0-23 months who were breastfed within the first hour after birth $\frac{\text{No. of children with response=1 for Q.2}}{\text{Total no. of children aged 0-23 months}} \times 100$
<i>Exclusive Breastfeeding Rate</i>	Percent of infants aged 0-5 months who were fed breastmilk only in the last 24 hours $\frac{\text{No. of children aged 0-5 months with response= A AND no other responses (B through P left blank) for Q. 8}}{\text{Total no. children age 0-5 months}} \times 100$
<i>Complementary Feeding Rate</i>	Percent of infants aged 6-9 months who received breastmilk and solid foods in the last 24 hours $\frac{\text{No. of children aged 6-9 months with response =A AND any of responses G through P for Q.8}}{\text{Total no. children age 6-9 months}} \times 100$
<i>Continued Breastfeeding</i>	Percent of children aged 20-23 months who are still breastfeeding $\frac{\text{No. of children aged 20-23 months with response=A for Q.8}}{\text{Total no. of children aged 20-23 months}} \times 100$
<i>Median Duration of Breastfeeding</i>	Age (in months) at which half of all children aged 0-23 months have stopped breastfeeding

The KPC may be tabulated either manually or by computer. For each child, a check mark (T) would be placed in the row of the category that matches the mother's response.

With the exception of the indicator on the median duration of breastfeeding, indicators listed in Table 2-1 are proportions (percents). Table 2-2 illustrates how the median duration of breastfeeding can be determined from a hand tabulation table.

TABLE 2-2: HAND TABULATION TABLE FOR Q.7
("For how long did you breastfeed (NAME)?")

NO. OF MONTHS (AGE)	CHECK MARKS (T)	FREQUENCY	PERCENT	CUMULATIVE PERCENT
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				

The cumulative percent for a particular row (i.e., age) is simply the sum of the percent for that particular row plus the percents for all preceding rows. For example, the cumulative percent at 12 months is equal to the sum of the percents (second-to-last column) for months 0-12. The median duration of breastfeeding is the first month for which the cumulative percent is at least 50 percent.

=====

REFERENCES FOR SURVEYS WITH INFANT/CHILD FEEDING INFORMATION

Listed below are other surveys with questions, sections or modules on infant/child feeding that may be of assistance when modifying the KPC to meet the needs of your particular project.

- (1) CARE (1999). *Rapid Impact Evaluation Survey* (Qs. 22-26).
- (2) Christian Children's Fund-Angola (1999). *KPC Questionnaire* (Qs. PD01-PD09).
- (3) ORC Macro (2000). *Measure DHS+ Model A Questionnaire for High Contraceptive Prevalence Countries*. Calverton, Maryland: ORC Macro. (Qs.492-93)
- (4) Project Hope (1999). Kasungu Child Survival and Mother Care Programme Baseline Survey, Questionnaire for mother/caretaker (Qs. 18-24).
- (5) Rosen, DS, Haselow, NJ, and NL Sloan (1993). *How to Use the HKI Food Frequency Method to Assess Community Risk of Vitamin A Deficiency*. [May be downloaded at www.cpc.unc.edu/measure/techassist/tools_methods/inventory/tool24.html].
- (6) UNICEF (1995). *Multiple Indicator Cluster Survey* (Breastfeeding Module).

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 3 : GROWTH MONITORING AND MATERNAL/CHILD ANTHROPOMETRY**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

Module 3 consists of three sub-modules on growth monitoring, child anthropometry, and maternal anthropometry. In the *Rapid CATCH*, child weight is measured, which enables projects to assess underweight prevalence. This module presents projects with the option of calculating additional indicators of nutritional status.

ASKING QUESTIONS AND RECORDING ANSWERS

In the growth monitoring sub-module (3A), it is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother. Question 3 is based upon information recorded on the child's growth monitoring card.

Sub-modules 3B and 3C involve maternal and child anthropometric measurements and will require the assistance of another individual.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age and sex in the second set of boxes.

SUB-MODULE 3A, Q.1: WEIGHED AT BIRTH

Delivery is a prime opportunity to begin monitoring a child and to determine whether he or she is at risk for adverse health and nutritional outcomes. In Question 1, you will ask the mother if (NAME) was weighed at birth. You will not, however, record (NAME's) weight at birth. The question is intended to determine whether children are weighed at birth, not how much they weigh.

SUB-MODULE 3A, Q.2: GROWTH MONITORING CARD

In Question 2, you will ask the mother if (NAME) has a growth monitoring card. If the mother answers YES, ask to see the card. In some cases the mother may not be willing to take time to look for the growth monitoring card, thinking that you are in a hurry. Encourage her to look for (NAME's) card and be patient if she needs to search for it.

If the mother shows you the card, circle 1 [YES, SEEN]. You will circle 2 [NOT AVAILABLE] if the mother says that (NAME) had a card but it is lost/misplaced or not in the home. If the mother says that she does not have a card for (NAME), circle 3 [NEVER HAD A CARD].

SUB-MODULE 3A, Q.3: WEIGHED LAST FOUR MONTHS

If (NAME) has a growth monitoring card, look at the card and see if he or she has been weighed in the last four months. If (NAME) has been weighed in the past but not in the last four months circle 2 [NO].

SUB-MODULE 3A, Q.4: DEWORMING

Worm infections are a major cause of child illness in many poor countries and may seriously impair growth and development. Question 4 asks whether (NAME) has received a medicine for worms in the last six months.

SUB-MODULES 3B AND 3C

For the child and maternal anthropometry sub-modules, please refer to the Annex for Module 3, which includes modified MEASURE DHS+ instructions on anthropometric measurement (ORC Macro (2000). *Measure DHS+ Interview's Manual for Use with Model Questionnaire*). It is recommended that anthropometric data be collected on children up to 5 years of age. In column 2 of sub-Module 3B, copy the date of birth from the GM card. If the GM card is not available, record the date of birth provided by the mother.

SKIP PATTERNS FOR GROWTH MONITORING AND MATERNAL AND CHILD ANTHROPOMETRY MODULE

It is very important that you ask the mother only those questions that are relevant to her child's situation. For example, if the child does not have a growth monitoring card you will not assess whether the child has been weighed in the last four months, since this question is based upon information on the card. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire.

	Question	Response	Instructions
GROWTH MONITORING	Q.2: "Does (NAME) have a growth monitoring card?"	yes, seen (1)	Go to Q.3
		not available (2); never had a card (3) don't know (8)	SKIP TO Q.4
CHILD ANTHROP.	IF MOTHER REFUSES PERMISSION TO TAKE (NAME'S) MEASUREMENTS:		SKIP TO COLUMN 5
MATERNAL ANTHROP.	IF MOTHER REFUSES PERMISSION TO TAKE HER MEASUREMENTS:		SKIP TO COLUMN 3

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C What factors may affect a child's growth?
- C Why is it important to weigh and measure children regularly?
- C How often should infants and young children be weighed and measured?
- C What are some ways that this community can monitor the growth of its children?
- C How easy would it be to establish and maintain a growth monitoring system in this community?

The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to child growth monitoring and development. As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena that were identified but not sufficiently explained by the KPC.

IDENTIFICATION	
CLUSTER NUMBER	
HOUSEHOLD NUMBER	
RECORD NUMBER	

AGE OF CHILD (IN MONTHS)	
SEX OF CHILD (1=MALE, 2=FEMALE)	

SUB-MODULE 3A: GROWTH MONITORING

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Was (NAME) weighed at birth?	YES 1 NO 2 DON'T KNOW 8	
2	Does (NAME) have a growth monitoring card? IF YES: May I see it please?	YES, SEEN 1 NOT AVAILABLE/LOST/MISPLACED 2 NEVER HAD A CARD 3 DON'T KNOW 8	<4 /
3	LOOK AT (NAME'S) GROWTH MONITORING CARD AND SEE IF (NAME) HAS BEEN WEIGHED IN THE LAST FOUR MONTHS.	YES 1 NO 2 DON'T KNOW 8	
4	FOR CHILDREN OVER 'X' MONTHS ¹ : Has (NAME) received a medicine for worms in the last six months?	YES 1 NO 2 DON'T KNOW 8	

¹ The age range of children for whom this question is asked is based upon national protocols indicating the age to begin anti-helminth treatment.

SUB-MODULE 3B: CHILD ANTHROPOMETRY

<p>ASK THE MOTHER FOR PERMISSION TO WEIGH AND MEASURE (NAME). IF SHE AGREES TO LET YOU TAKE (NAME'S) MEASUREMENTS, RECORD THE NECESSARY INFORMATION IN THE SPACES BELOW. IF THE MOTHER REFUSES PERMISSION TO MEASURE (NAME), LEAVE COLUMNS 1-4 BLANK AND RECORD '3' [REFUSED] IN COLUMN 5.</p> <p>ASK TO MEASURE EACH OF (NAME'S) SIBLINGS UNDER FIVE YEARS OF AGE. RECORD (NAME'S) MEASUREMENT IN THE FIRST ROW.</p>				
1	2	3	4	5
NAME OF CHILD	What is his/her date of birth?	WEIGHT (KILOGRAMS)	HEIGHT (CENTIMETERS)	RESULT 1 MEASURED 2 NOT PRESENT 3 REFUSED 6 OTHER
MEASURE (NAME) FIRST, THEN MEASURE HIS/ HER BROTHERS AND SISTERS WHO ARE UNDER AGE FIVE YEARS.	COPY DATE OF BIRTH FROM GM CARD, IF AVAILABLE. IF GM CARD IS NOT AVAILABLE, RECORD DATE OF BIRTH PROVIDED BY MOTHER.			
	DD MM YEAR			
(1) _____	<div>DD</div> <div>MM</div> <div>YEAR</div>	<div>0</div> <div>0</div> <div>0</div>	<div>0</div> <div>0</div> <div>0</div>	<div>1</div> <div>2</div> <div>3</div> <div>6</div>
(2) _____	<div>DD</div> <div>MM</div> <div>YEAR</div>	<div>0</div> <div>0</div> <div>0</div>	<div>0</div> <div>0</div> <div>0</div>	<div>1</div> <div>2</div> <div>3</div> <div>6</div>
(3) _____	<div>DD</div> <div>MM</div> <div>YEAR</div>	<div>0</div> <div>0</div> <div>0</div>	<div>0</div> <div>0</div> <div>0</div>	<div>1</div> <div>2</div> <div>3</div> <div>6</div>
(4) _____	<div>DD</div> <div>MM</div> <div>YEAR</div>	<div>0</div> <div>0</div> <div>0</div>	<div>0</div> <div>0</div> <div>0</div>	<div>1</div> <div>2</div> <div>3</div> <div>6</div>
(5) _____	<div>DD</div> <div>MM</div> <div>YEAR</div>	<div>0</div> <div>0</div> <div>0</div>	<div>0</div> <div>0</div> <div>0</div>	<div>1</div> <div>2</div> <div>3</div> <div>6</div>

A NOTE ABOUT TAKING ANTHROPOMETRIC MEASUREMENTS FOR THE KPC

The KPC usually focuses on children under age two. In keeping with this, the Tabulation Plan presents underweight prevalence as an appropriate indicator for children in this age group. Please note, the indicator can also be derived from the *Rapid CATCH*.

Underweight is a composite measure of long-term and short-term undernutrition. In addition to underweight, two common measures of nutritional status are *stunting* (low height-for-age), which reflects long-term undernutrition, and *wasting* (low weight-for-height), which reflects acute (short-term) undernutrition. In order to assess underweight, only the child's age (date of birth) and weight are needed. The above table is presented for projects that are also interested in assessing stunting, which requires age/date of birth, weight, and height. While underweight prevalence is a sufficient indicator for children age 0-23 months, the inclusion of older children (up to age five years) will enable projects to assess stunting, if desired. Projects should note that while wasting can also be assessed, it is a highly seasonal index, fluctuating with changes in food security and the occurrence of diseases. For additional guidance, projects may wish to consult the FANTA reference (Cogill, 2000) at the end of this module.

The ANNEX to this module presents MEASURE DHS+ instructions for taking anthropometric measurements of women and children. In this module, maternal arm circumference is presented as an alternative to maternal weight and height. Note, however, that projects will need to consult additional references for guidelines on measuring arm circumference, since such instructions do not exist in the MEASURE DHS+ guidelines. Some projects may opt to collect information on maternal weight and height

instead of arm circumference.

SUB-MODULE 3C: MATERNAL ANTHROPOMETRY

<p>NOW ASK THE MOTHER IF YOU MAY TAKE HER MEASUREMENTS. IF SHE AGREES, RECORD THE INFORMATION BELOW. IF SHE REFUSES, LEAVE COLUMNS 1-2 BLANK AND RECORD '3' [REFUSED] IN COLUMN 3.</p>		
<p>(1)</p> <p>MATERNAL AGE (YEARS)</p>	<p>(2)</p> <p>MATERNAL ARM CIRCUMFERENCE (CENTIMETERS)</p>	<p>(3)</p> <p><u>RESULT</u> 1 MEASURED 2 NOT PRESENT 3 REFUSED 6 OTHER</p>
<p> </p> <p>111</p> <p> </p>	<p> </p> <p> </p> <p> </p>	<p> </p> <p>11</p> <p> </p>

<p>NOW ASK THE MOTHER IF YOU MAY TAKE HER MEASUREMENTS. IF SHE AGREES, RECORD THE INFORMATION BELOW. IF SHE REFUSES, LEAVE COLUMNS 1-2 BLANK AND RECORD '3' [REFUSED] IN COLUMN 3.</p>		
<p>(1)</p> <p>MATERNAL AGE (YEARS)</p>	<p>(2)</p> <p>MATERNAL ARM CIRCUMFERENCE (CENTIMETERS)</p>	<p>(3)</p> <p><u>RESULT</u> 1 MEASURED 2 NOT PRESENT 3 REFUSED 6 OTHER</p>
<p> </p> <p>111</p> <p> </p>	<p> </p> <p> </p> <p> </p>	<p> </p> <p>11</p> <p> </p>

TABULATION PLAN

Module 3 yields information on growth monitoring and maternal/child anthropometry within the target community. Table 3-1 presents a list of key indicators that can be derived from this module. PVOs should expand or reduce this list of indicators to meet their specific project activities.

The following indicators can also be examined by age and sex of the child. To examine indicators by child's age or sex, place questionnaires in different piles or folders according to the child's age group or sex. Separate tabulation tables can then be calculated for each group.

TABLE 3-1: GROWTH MONITORING AND ANTHROPOMETRIC INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>Growth Monitoring Card Possession</i>	Percent of children aged 0-23 months who have a growth monitoring card No. of children aged 0-23 months with response=1 for Q.2, sub-module 3A <div style="text-align: right;">x 100</div> Total no. of children aged 0-23 months
<i>Growth Monitoring in Last Four Months</i>	Percent of children aged 0-23 months who were weighed in the last four months (card-confirmed) No. of children aged 0-23 months with response=1 for Q.3 <div style="text-align: right;">x 100</div> Total no. of children aged 0-23 months with growth monitoring cards (response=1 for Q.2)
<i>Deworming</i>	Percent of children aged X to Y months (age range should reflect national protocols for deworming) who received deworming medicine in the last six months No. of children aged X to Y months with response=1 for Q.4 <div style="text-align: right;">x 100</div> Total no. of children aged X to Y months
<i>Percent Underweight</i>	Percent of children aged 0-23 months who are less than 2 standard deviations below the median weight-for-age of the reference population ¹
<i>Maternal Undernutrition</i>	Percent of mothers with a mid-upper arm circumference (MUAC) of <22.5 cm. No. of mothers with MUAC <22.5 cm <div style="text-align: right;">x 100</div> Total no. of mothers with children aged 0-23 months who were measured

¹ The U.S. population in 1976 is often used as the reference; however, choice of reference will need to be determined by individual PVOs.

Although the percentage of children age 0-23 months who are underweight is presented above, the mean weight among children age 0-23 months can be used as an additional indicator to track changes over time.

REFERENCES FOR SURVEYS WITH GROWTH MONITORING AND ANTHROPOMETRIC INFORMATION

Listed below are other surveys with questions, sections or modules on growth monitoring/promotion and maternal/child anthropometry that may be of assistance when modifying the KPC to meet the needs of your particular project.

(1) Christian Children's Fund-Angola (1999). *KPC Questionnaire* (Qs. PF21-PF22).

(2) ORC Macro (2000). *MEASURE DHS+ Model A Questionnaire for High Contraceptive Prevalence Countries* (Household Questionnaire).

(3) Project Hope (1999). Kasungu Child Survival and Mother Care Programme Baseline Survey, Questionnaire for mother/caretaker (Qs. 25-26).

(4) UNICEF (1995). *Multiple Indicator Cluster Survey* (Anthropometry Module).

REFERENCE GUIDES FOR ANTHROPOMETRIC ASSESSMENT

(1) Cogill B. (2000). *Anthropometric Indicators Measurement Guide*. Food and Nutrition Technical Assistance Project (FANTA). FANTA's website is located at www.fantaproject.org

(2) Tuli K and R Davis (1999). *Anthropometric Survey Manual*. Catholic Relief Services.

(3) United Nations (UN) (1986). *How to Weigh and Measure Children: Assessing the Nutritional Status of Young Children in Household Surveys*, Department of Technical Co-operation for Development and Statistical Office, New York.

ANNEX TO KPC MODULES 3B AND 3C

PROCEDURES FOR ANTHROPOMETRIC MEASUREMENTS

Adapted from *MEASURE DHS+ Interviewer Manual*

HEIGHT AND WEIGHT MEASUREMENT

The following tables outline procedures for taking weight and height/length measurements of mothers and their children. Please note, anthropometric measurement will require more than one person: the interviewer and an assistant.

The anthropometry portion of the KPC2000+ Module 3 has two parts. The top part (sub-module 3B) is for recording the measurements of children, and the bottom part (sub-module 3C) is for mothers. Maternal arm circumference is presented in sub-module 3C; however, projects may opt for maternal height and weight measurements, following the instructions in this annex.

INSTRUCTIONS FOR MEASURING HEIGHT AND WEIGHT OF BOTH RESPONDENTS AND CHILDREN

Acknowledgment: the instructions that follow have been taken (with some alterations) from the United Nations manual "How to Weigh and Measure Children: Assessing the Nutritional Status of Young Children in Household Surveys," Department of Technical Co-operation for Development and Statistical Office, New York, 1986.

I. PROCEDURES AND PRECAUTIONS BEFORE MEASURING

A. Layout of the Procedures

Each step of the measurement procedures is directed at specific participants, who are named in bold letters at the beginning of each step: e.g. "**Measurer**", "**Assistant**", etc.

B. Two Trained People Required

Two trained people are required to measure a child's height and length. The measurer holds the child and takes the measurements. The assistant helps hold the child and records the measurements on the questionnaire. If there is an untrained assistant such as the mother, then the trained measurer should also record the measurements on the questionnaire. One person alone can take the weight of a child and record the results if an assistant is not available.

C. Measuring Board and Scale Placement

Be selective about where you place the measuring board and scale. It is best to measure outdoors during daylight hours. If it is cold, raining or if too many people congregate and interfere with the measurements, it may be more comfortable to weigh and measure indoors. Make sure there is adequate light.

D. Age Assessment

Before you measure, determine the child's age. Since children in the KPC sample are less than two years of age, measure length instead of height.

E. When to Weigh and Measure

Weigh and measure after you have completed all other modules in the survey. This will allow you to become familiar with the members of the household. DO NOT weigh and measure at the beginning of the interview, i.e., as soon as you enter a household, which would be more of an upsetting intrusion.

F. Weigh and Measure One Child at a Time

If there is more than one eligible child in a household, complete the weighing and measuring of one child at a time. Then proceed with the next eligible child. DO NOT weigh and measure all the children together. If there is more than one eligible woman in a household, weigh and measure her and all her eligible children before proceeding with the next woman. Otherwise measurements may get recorded in the wrong columns of the questionnaire. Return measuring equipment to their storage bags immediately after you complete the measurements for each household.

G. Control the Child

When you weigh and measure, you must control the child. The strength and mobility of even very young children should not be underestimated. Be firm yet gentle with children. Your own sense of calm and self confidence will be felt by the mother and the child.

When a child has contact with any measuring equipment, i.e., on a measuring board you must hold and control the child so the child will not trip or fall. Never leave a child alone with a piece of equipment.

H. Coping with stress

Since weighing and measuring requires touching and handling children, normal stress levels for this type of survey work are higher than for surveys where only verbal information is collected.

Explain the weighing and measuring procedures to the mother, and to a limited extent, the child, to help minimize possible resistance, fears or discomfort they may feel. You must determine if the child or mother is under so much stress that the weighing and measuring must stop. Remember, young children are often uncooperative; they tend to cry, scream, kick and sometimes bite. If a child is under severe stress and is crying excessively, try to calm the child or return the child to the mother before proceeding with the measuring. Do not weigh or measure a child if:

- The mother refuses.
- The child is too sick or distressed.
- The child is physically deformed which will interfere with or give an incorrect measurement. To be kind, you may want to measure such a child and make a note of the deformity on the questionnaire.

I. Recording Measurements and Being Careful

Keep objects out of your hands and pens out of your mouth, hair or breast pocket when you weigh and measure so that neither the child nor you will get hurt due to carelessness. When you are not using a pen, place it in your equipment pack or on the questionnaire. Make sure you do not have long fingernails. Remove interfering rings and watches before you weigh and measure.

IIA. CHILD'S LENGTH, SUMMARY OF PROCEDURES

1. **Measurer or Assistant:** Place the measuring board on a hard flat surface, i.e. ground, floor or steady table.
2. **Assistant:** Place the questionnaire and pen on the ground, floor or table (Arrow 1). Kneel with both knees behind the base of the board, if it is on the ground or floor (Arrow 2).
3. **Measurer:** Kneel on the right side of the child so that you can hold the foot piece with your right hand (Arrow 3).
4. **Measurer and Assistant:** With the mother's help, lay the child on the board by doing the following:
Assistant: Support the back of the child's head with your hands and gradually lower the child onto the board.
Measurer: Support the child at the trunk of the body.
5. **Measurer or Assistant:** If she is not the assistant, ask the mother to kneel on the opposite side of the board facing the measurer to help keep the child calm.
6. **Assistant:** Cup your hands over the child's ears (Arrow 4). With your arms comfortably straight (Arrow 5), place the child's head against the base of the board so that the child is looking straight up. The child's line of sight should be perpendicular to the ground (Arrow 6). Your head should be straight over the child's head. Look directly into the child's eyes.
7. **Measurer:** Make sure the child is lying flat and in the center of the board (Arrow 7). Place your left hand on the child's shins (above the ankles) or on the knees (Arrow 8). Press them firmly against the board. With your right hand, place the foot piece firmly against the child's heels (Arrow 9).
8. **Measurer and Assistant:** Check the child's position (Arrows 1-9). Repeat any steps as necessary.
9. **Measurer:** When the child's position is correct, read and call out the measurement to the nearest 0.1 cm. Remove the foot piece, release your left hand from the child's shins or knees and support the child during the recording.
10. **Assistant:** Immediately release the child's head, record the measurement, and show it to the measurer. Note: If the assistant is untrained, the measurer records the length on the questionnaire.
11. **Measurer:** Check the recorded measurement on the questionnaire for accuracy and legibility. Instruct the assistant to correct any errors.

IIB. WOMAN'S HEIGHT, SUMMARY OF PROCEDURES

When measuring the height of the mother, make sure that any scarves are removed and that her hairstyle does not interfere with the measurement. You must use all extension pieces for the measuring board. While measuring, you should be careful to respect her modesty when checking that she is standing straight against the board.

III. WEIGHT, SUMMARY OF PROCEDURES FOR WEIGHING WOMEN AND CHILDREN WHEN USING THE UNICEF SCALE

A. Equipment:

1. **Digital scale** (UNICEF Electronic Scale or Uniscale ¹) for weighing both children and adults. (The scale looks like a bathroom scale, with a digital display. The scale is accurate to 0.1 kg (0.2 lbs), and allows the measurer to directly read the weight of the child when held by the mother without requiring any calculations).

The Uniscale has solar cells; there are no batteries that can be changed.

(The following incorporates part of the instructions in the booklet that accompanies the Uniscale. Please also see **Additional Notes on the Uniscale** following the instructions on how to weigh women and children).

2. **Wooden support board** to place under the scale (to be carried with the scale). If you do not have a wooden board, you may have to use the top section from the height measuring board unless you can place the scale on a completely flat and horizontal floor.

B. **Measurer: Explaining the weighing procedure to the mother.**

1. Explain to the mother that you have a scale to weigh the child, and that the child will be weighed while being held by the mother. Also explain that you will record the mother's weight as well.
2. Ask the mother to wear just light indoor clothing (e.g. a dress or a blouse and skirt) when she is weighed. She should not wear thick clothing or anything heavy.
3. Ask the mother to undress the child completely. The only exception is that the children may wear a small pair of underpants if desired by the mother. Children should not wear diapers. If she is concerned that it is cold, tell her that she may cover the child with a cloth or a blanket until the scale is ready.
4. Ask the mother to let someone else hold the baby so she can be ready to step onto the scale (or hold the baby yourself if no one else is there).
5. Tell the mother that after weighing her, you will first weigh the youngest child, then the second youngest, etc.

C. **Measurer: Preparing the scale**

1. It is important to remember that the scale will not function correctly if it becomes too warm. It is best to use the scale in the shade, or indoors, as long as there is enough light for the solar cells.
Place the wooden support board flat on the ground, making sure that it is on a smooth surface, and that it will not move at all even if someone stands on it.
2. Then place the scale on the board and make sure that it is flat (horizontal).
3. If the scale is not flat (horizontal) or if the scale and board are not steady, move the board into a different position, or place something under the board, until the problem is corrected.
4. Check again to make sure that the board is flat (horizontal) and stable and that it cannot move at all. It is important that the scale is placed on a hard, level surface; soft or uneven surfaces may cause errors in weighing.
5. Have the questionnaire and pen ready in your hand.

D. **Measurer: Weighing women**

1. Turn the scale 'ON' by covering the solar cells for less than one second (the scale will not turn on if the solar cells are covered too long). The display should show '188.8' first, and then '0.0'. The '0.0' reading indicates that the scale is ready.
2. Ask the woman to step onto the center of the scale and stand quietly. Wait until the numbers on the display no longer change. Make sure that the solar cells are not covered by a skirt or by the woman's feet.
3. The woman's weight will appear in the display within two seconds. Record the woman's weight to the nearest 0.1 kg in the questionnaire in the RESPONDENT column (this is the weight of the respondent). (Make sure that you are able to see the whole display area so that you can read all the numbers correctly).

¹ The UNICEF emblem of the mother and child is on the Uniscale which is manufactured by SECA. The scale carries the inscription "This scale was manufactured for UNICEF using technology developed in Australia and donated to UNICEF by the people of Australia".

III. WEIGHT, SUMMARY OF PROCEDURES FOR WEIGHING WOMEN AND CHILDREN WHEN USING THE UNICEF SCALE (CONTINUED)

E. **Measurer: Weighing the child**

NOTE: If it is cold and the mother wants the child to be covered during the weighing, give her a blanket or cloth for covering the baby **after** you have recorded her own weight in the questionnaire (that is, after Step D.3), but **before** you go to the next step (E.1).

1. If you are NOT giving the mother a blanket or cloth: While the mother is standing still on the scale, make sure that the numbers are not changing, then (while the woman is standing quietly on the scale) cover the solar cells for less than one second. The scale will read '0.0'. There will be a small picture of a mother holding a baby which means that the scale has adjusted itself to ignore the woman's weight (this is called taring) and prepared itself to show you only the baby's weight. The scale is ready to weigh the baby in the mother's arms.

If you ARE giving the mother a blanket or cloth for covering the baby: Ask the mother to step off the scale after you have recorded her weight. Then give her the blanket or cloth and ask her to step back onto the scale. (It is necessary for the woman to step off the scale because blankets and cloths usually weigh less than 2 kilograms; see H.2 below). While the woman is standing still on the scale, make sure that the numbers are not changing, then (while the woman is standing quietly on the scale and holding the blanket) cover the solar cells for less than one second. The scale will read '0.0'. There will be a small picture of a mother holding a baby which means that the scale has adjusted itself to ignore the woman's weight (this is called taring) and prepared itself to show you only the baby's weight. The scale is ready to weigh the baby in the mother's arms.

2. Give the mother the youngest child to hold. Wait until the numbers on the display no longer change.
3. Record the weight of the child to the nearest 0.1 kg in the questionnaire in the column with the child's name. (The scale has now shown you the weight of the child alone even though he/she was held by the mother).

F. **Measurer: Weighing more than one child per respondent**

Repeat the steps above (under E.) for each child, giving the mother the second to the youngest child to hold, then the third youngest, etc.

1. Make sure that you cover the solar cells for less than one second while the mother stands quietly alone on the scale **before** each child is weighed. The scale will read '0.0' and the small picture of a mother holding a baby will appear, telling you that the scale is ready to weigh the child in the mother's arms. (For the best results, it is best to follow this procedure of taring the scale before each child).
2. Give the child to the mother to hold. Wait for a few seconds until the numbers on the display no longer change.
3. Record the weight to the nearest 0.1 kg in the questionnaire in the column with the child's name.

G. **Measurer: Thank the respondent**

Thank the respondent, and tell her something nice about her child(ren).
(The scale will turn itself off after a short while).

H. Additional Notes on the Uniscale:

1. The Uniscale **switches itself off automatically two minutes after the last weighing**. If this happens, follow the instructions from the beginning to turn it on again.
2. There are **special instructions for weighing very small babies** (those who weigh less than about 2 kg.). If you are not able to get a weight reading when trying to weigh a small baby, follow these instructions. To get a reading for such a small child, the scale should be tared by covering the solar cells for less than one second while the woman stands on the scale (as described above under E.1). The woman must then step off the scale (the display will then show '--.-'), take the small baby, and then step right back on the scale again. The display will show the weight of the small baby.
3. If there is **too much movement** on the scale during measurement, the display will switch between '1.' and '.1' until the load becomes stable.
4. Do not weigh loads with a **total weight** of more than 150 kg.
5. Possible **reasons for the scale not taring** (returning to '0.0' after covering the cells when the mother is standing on the scale):
 - a. there was no weight on the scale to tare
 - b. the solar cell was not covered completely
 - c. the solar cell was covered for more than one second; try covering it for less than one second
 - d. it is too dark; put the scale in a brighter place
 - e. the load weighs more than 120 kg.; use a lighter load

6. What to do if the scale display shows:

E01:

The scale has to readjust itself. Get off the scale and wait until E01 no longer appears.

E02 and switches off automatically:

Be sure there is no load on the scale and try to start the scale.

E03 and switches off automatically:

The scale is either too cold or too hot. Move it to a different place with the temperature between 0 degrees C and 45 degrees C. Wait 15 minutes for it to adjust to the temperature, then start the scale.

E04 after measuring:

The load is too heavy (more than 150 kg.). Get off the scale and reduce the load.

E05 for a few seconds after trying to start the tare function:

The load is too heavy for taring (more than 120 kg.). Get off the scale and reduce the load.

7. Notes on using, cleaning and storing the Uniscale:

- a. The scale will not function correctly if it becomes too warm. It is best to use the scale in the shade, or indoors, as long as there is enough light for the solar cells. If the scale becomes too hot and does not work correctly, place it in a cooler area and wait 15 minutes before using it again.
- b. The scale must adjust to changes in temperature. If the scale is moved to a new site with a different temperature, wait for 15 minutes before using the scale again.
- c. Do not drop or bump the scale.
- d. Do not store the scale in direct sunlight or other hot places. For example, do not leave the scale in a parked vehicle on a sunny day.
- e. Protect the scale against excess humidity and wetness.
- f. Do not use the scales at temperatures below 0 degrees C or above 45 degrees C.
- g. To clean the scale, wipe surfaces with a damp cloth. Never put the scale into water.

III .WEIGHT, SUMMARY OF PROCEDURES FOR WEIGHING WOMEN AND CHILDREN WHEN USING THE SECA 770 SCALE

A. Equipment:

1. **Digital scale** (SECA 770) ² for weighing both children and adults. (The scale to be used looks like a bathroom scale, with a digital display. The scale is accurate to 0.1 kg (0.2 lbs), and allows the measurer to directly read the weight of the child when held by the mother without requiring any calculations).
2. **Wooden support board** to place under the scale (to be carried with the scale). If you do not have a wooden board, you may have to use the top section from the height measuring board unless you can place the scale on a completely flat and horizontal floor.

B. **Measurer: Explaining the weighing procedure to the mother.**

1. Explain to the mother that you have a scale to weigh the child, and that the child will be weighed while being held by the mother. Also explain that you will record the mother's weight as well. Older children may be weighed by standing by themselves on the scale (See G. below).
2. Ask the mother to wear just light indoor clothing (e.g. a dress or a blouse and skirt) when she is weighed. She should not wear thick clothing or anything heavy.
3. Ask the mother to undress the child completely. The only exception is that the children may wear a small pair of underpants if desired by the mother. Children should not wear diapers. If she is concerned that it is cold, tell her that she may cover the child with a cloth or a blanket until the scale is ready.
4. Ask the mother to let someone else hold the baby so she can be ready to step onto the scale (or hold the baby yourself if no one else is there).
5. Tell the mother that, you will first weigh the youngest child, then the second youngest, etc.

C. **Measurer: Preparing the scale.**

1. Place the wooden support board flat on the ground, making sure that it is on a smooth surface, and that it will not move at all even if someone stands on it.
2. Then place the scale on the board and make sure that it is flat (horizontal).
3. If the scale is not flat (horizontal), or if the scale and board are not steady, move the board into a different position, or place something under the board, until the problem is corrected.
4. Check again to make sure that the board is flat (horizontal) and stable and that it cannot move at all. It is important that the scale is placed on a hard level surface; soft or uneven surfaces may cause errors in weighing.
5. Have the questionnaire and pen ready in your hand.

D. **Measurer: Weighing the woman**

1. Turn the scale 'ON' by pushing the switch through the hole in the bar at the back of the scale. The display will read '00.0' when the scale is ready.
2. Ask the woman to step onto the center of the scale and stand quietly. Wait until the numbers on the display no longer change.
3. Record the woman's weight to the nearest 0.1 kg in the questionnaire in the RESPONDENT column (this is the weight of the respondent). (Make sure that you are able to see the whole display area so that you can read all the numbers correctly).
4. Tell the mother to please keep standing still on the scale, since you are getting ready to weigh the child now.

E. **Measurer: Weighing the child**

NOTE: If it is cold and the mother wants the child to be covered during the weighing, give the mother a blanket or cloth for covering the baby while she is standing quietly on the scale **after** you have recorded her own weight in the questionnaire (that is, after Step D.3), but **before** you go to the next step, Step E.1.

1. While the mother is standing still on the scale, make sure that the numbers are not changing, then push the switch through the hole in the bar at the back of the scale. The display will read '00.0' when the scale is ready.

² The name SECA Model 770 is written on the scale.

III. WEIGHT, SUMMARY OF PROCEDURES FOR WEIGHING WOMEN AND CHILDREN WHEN USING THE SECA 770 SCALE
(CONTINUED)

F. Measurer: Weighing more than one child per respondent

Repeat step E above for each child, giving the mother the second to the youngest child to hold, then the third youngest, etc.

1. Make sure that you push the switch through the hole in the bar at the back of the scale when the mother stands alone quietly on the scale **before each** child is weighed.
2. Give the next child to the mother to hold. Wait for a few seconds until the numbers on the display no longer change.
3. Record the weight to the nearest 0.1 kg in the questionnaire in the column with the child's name.

G. Measurer: Thank the respondent

Thank the respondent, and tell her something nice about her child. (The scale will turn itself off after a short while).

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 4A: CHILDHOOD IMMUNIZATION**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

The Childhood Immunization Module contains six questions on vaccinations received by the child since birth. Questions 2 and 3 are highlighted to indicate that they also appear in the KPC2000 *Rapid CATCH*. Question 6G also appears in the *CATCH*. Questions in this module should be asked of every mother in the survey, regardless of her child's age.

ASKING QUESTIONS AND RECORDING ANSWERS

With the exception of Question 3, which is based upon information documented on the child's vaccination card, you will ask the mother for information about her child. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

Most questions in this module have precoded responses. It is important that you do not read these choices aloud to the mother. When you ask a question, you should listen to the mother's response then circle the code next to the category that best matches her answer. For some questions, an OTHER code is included in the list of precoded responses. If the mother provides an answer that does not fit into any of the precoded categories, circle the OTHER code and write the mother's answer in the blank space provided.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age, sex, and date of birth in the second set of boxes.

Q.1: VITAMIN A IN LAST SIX MONTHS

Vitamin A deficiency is a major cause of night blindness in children. Show the vitamin A ampule, capsule, or syrup to the mother and ask her if (NAME) received Vitamin A in the last six months. If the child a) never received a vitamin A dose, or b) received a dose more than six months ago, circle 2 [NO].

Q.2: VACCINATION CARD

If the mother says that she has a vaccination card for (NAME), then ask "May I see it please?" In some cases the mother may not be willing to take time to look for the vaccination card, thinking that you are in a hurry. Encourage her to look for (NAME's) card. It is critical to obtain written documentation of the child's immunization history; therefore, be patient if the respondent needs to search for the card.

If the mother shows you the card, circle 1 [YES, SEEN]. Circle 2 [NOT AVAILABLE] if the mother says that (NAME) has a card but she cannot find it because a) she has lost it, b) someone else has it, or c) it is not accessible to her during the interview. If the mother says that she never had a card for (NAME), circle 3 [NEVER HAD A CARD]. This question also appears in the *Rapid CATCH*.

Q.3: RECORDING VACCINATIONS

If the mother shows you a vaccination card, fill in the responses to Question 3, taking the information directly from the card. Before recording information, be certain that you have the correct card for (NAME). When reading the vaccination card, be very careful. Dates should be recorded with the day first, then the month and then the year. Check the card carefully to see which way the dates are written, because sometimes the month might come first, followed by the day and year. Be very careful to record dates correctly.

In addition to recording vaccination dates on the card, some health facilities may also record the dates (appointments) on which the mother should bring her child for the next immunizations. Be very careful not to record a scheduled appointment date as a vaccination date. It is possible that an appointment date was given, but the child never received the vaccination. Only record dates when vaccinations were actually given, and not dates of appointments. Be patient and read the card thoroughly.

If the card shows that a vaccination was given, but there is no date recorded, record 44 in the DAY column next to the vaccine and leave the month and year blank. However, if a date is given for a DPT vaccination and there is simply a check mark to show that a polio vaccine was also given, record the date of the DPT injection on the polio line since this probably indicates that the

vaccinations were given on the same day. Some immunization cards have only a single line for DPT1 and POLIO1, DPT2 and POLIO2, etc. If there is a date on one of these lines, record the same date for both the DPT and polio injections. This question also appears in the *Rapid CATCH*.

Q.4: VACCINATIONS DURING IMMUNIZATION CAMPAIGNS (FOR CHILDREN WITH A CARD)

Q.4 is only asked of mothers whose child has a vaccination card. Ask the mother if any vaccinations were received by her child that are not documented on the vaccination card. This includes any vaccines received during a national immunization day campaign. Proceed to Question 6 if the mother answers YES.

Q.5: VACCINATIONS DURING IMMUNIZATION CAMPAIGNS (FOR CHILDREN WITH NO CARD)

You will ask Q.5 only if you did not see the child's vaccination card. For children who don't have cards, all of the information about vaccination will be collected from the mother, based on her memory about those vaccinations.

Qs.6A-6G: VACCINATIONS FOR CHILDREN WITH NO CARD

If you did not see a child's vaccination card and the mother tells you that the child received at least one vaccination, ask the series of questions in Qs. 6A-6G about BCG, polio, DPT, and measles.

Read the introductory question ("Please tell me if (NAME) received any of the following vaccinations.") and then ask Qs. 6A-6G, following the appropriate skip patterns. There are many types of vaccines, and it is important that the mother knows to which vaccine each question refers. Each question specifies how a particular vaccine is given. Read the whole sentence before accepting the mother's response.

Notice that there are follow-up questions for the polio and DPT vaccinations. For the polio vaccine, you will ask if the child received it (Q.6B), when the child first received it (Q.6C), and how many times the child received it (Q.6D). Similarly, for the DPT vaccination, you will ask if the child received the vaccination (Q.6E), and how many times (Q.6F). Note, Question 6G appears in the *Rapid CATCH*.

SKIP PATTERNS FOR CHILDHOOD IMMUNIZATION MODULE

It is very important that you ask the mother only those questions that are relevant to her child's situation. For example, if a child does not have a vaccination card then Q.3 is not relevant. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. The following list summarizes all skip patterns within the Childhood Immunization Module.

Question	Response	Instructions
Q.2. "Do you have a card where (NAME's) vaccinations are written down?"	yes, seen (1) not available (2); never had a card (3) don't know (8)	Go to Q.3 SKIP to Q.5
Q.4. "Did (NAME) ever receive any vaccinations that are not recorded on this card, including vaccinations received in a national immunization day campaign?"	yes (1) no (2); don't know (8)	SKIP to Q.6 END MODULE
Q.5. "Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization day campaign?"	yes (1) no (2); don't know (8)	Go to Q.6 END MODULE
Q.6B. "Polio vaccine, that is, drops in the mouth?"	yes (1) no (2); don't know (8)	Go to Q.6C SKIP TO Q.6E
Q.6E. "DPT vaccination, that is, an	yes (1)	Go to Q.6F

injection given in the thigh or buttocks, no (2); don't know (8)
 sometimes at the same time as polio
 drops?"

SKIP TO Q.6G

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C What are the three main diseases that affect children in this community?
- C Why does a child get a vaccination (injection)?
- C Why is it important for a child to be vaccinated?
- C What can happen to a child who is not vaccinated?
- C What are some of the reasons why some children in your community are not vaccinated?
- C What can be done to ensure that children in this community are fully vaccinated?

The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to childhood immunization. As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena that were identified but not sufficiently explained by the KPC.

IDENTIFICATION	
CLUSTER NUMBER	
HOUSEHOLD NUMBER	
RECORD NUMBER	

AGE OF CHILD (IN MONTHS)	
CHILD'S DATE OF BIRTH	____/____/____ (dd/mm/yy)
SEX OF CHILD (1=MALE, 2=FEMALE)	

CHILDHOOD IMMUNIZATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP																																												
1	Did (NAME) take a vitamin A dose like this during the last 6 months? ¹ SHOW AMPULE/CAPSULE/SYRUP.	YES 1 NO 2 DON'T KNOW 8																																													
2	Do you have a card where (NAME'S) vaccinations are written down? ² IF YES: May I see it please?	YES, SEEN BY INTERVIEWER 1 NOT AVAILABLE/LOST/MISPLACED ... 2 NEVER HAD A CARD 3 DON'T KNOW 8	<5 \$																																												
3	(1) COPY VACCINATION DATE FOR EACH VACCINE FROM THE CARD. ² (2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE IS RECORDED.	<table border="1"> <thead> <tr> <th></th> <th>DAY</th> <th>MONTH</th> <th>YEAR</th> </tr> </thead> <tbody> <tr> <td>BCG</td> <td>BCG</td> <td></td> <td></td> </tr> <tr> <td>POLIO 0 (POLIO GIVEN AT BIRTH)</td> <td>P0</td> <td></td> <td></td> </tr> <tr> <td>POLIO 1</td> <td>P1</td> <td></td> <td></td> </tr> <tr> <td>POLIO 2</td> <td>P2</td> <td></td> <td></td> </tr> <tr> <td>POLIO 3</td> <td>P3</td> <td></td> <td></td> </tr> <tr> <td>DPT 1</td> <td>D1</td> <td></td> <td></td> </tr> <tr> <td>DPT 2</td> <td>D2</td> <td></td> <td></td> </tr> <tr> <td>DPT 3</td> <td>D3</td> <td></td> <td></td> </tr> <tr> <td>MEASLES</td> <td>MEA</td> <td></td> <td></td> </tr> <tr> <td>VITAMIN A (MOST RECENT)</td> <td>VIT. A</td> <td></td> <td></td> </tr> </tbody> </table>		DAY	MONTH	YEAR	BCG	BCG			POLIO 0 (POLIO GIVEN AT BIRTH)	P0			POLIO 1	P1			POLIO 2	P2			POLIO 3	P3			DPT 1	D1			DPT 2	D2			DPT 3	D3			MEASLES	MEA			VITAMIN A (MOST RECENT)	VIT. A			
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DPT 3	D3																																														
MEASLES	MEA																																														
VITAMIN A (MOST RECENT)	VIT. A																																														
4	Has (NAME) received any vaccinations that are not recorded on this card, including vaccinations received in a national immunization day campaign?	YES 1 NO 2 DON'T KNOW 8	>6 <END																																												

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
5	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization day campaign?	YES 1 NO 2 DON'T KNOW 8	<END
6	Please tell me if (NAME) received any of the following vaccinations: ²		
6A	A BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually causes a scar? ³	YES 1 NO 2 DON'T KNOW 8	
6B	Polio vaccine, that is, drops in the mouth?	YES 1 NO 2 DON'T KNOW 8	<6E
6C	When was the first polio vaccine received, just after birth or later?	JUST AFTER BIRTH 1 LATER 2	
6D	How many times was the polio vaccine received?	NUMBER OF TIMES 11	
6E	DPT vaccination, that is, an injection given in the thigh or buttocks, sometimes at the same time as polio drops? ³	YES 1 NO 2 DON'T KNOW 8	<6G
6F	How many times?	NUMBER OF TIMES 11	
====	=====	=====	
6G	In <i>Rapid CATCH</i>: An injection to prevent measles?	YES 1 NO 2 DON'T KNOW 8	
====	=====	=====	

- ¹ This question also exists in the module on Breastfeeding/Nutrition (Module 2). There is a vitamin A question in the Postpartum Care Module (Module 5C), although the question pertains to maternal (not child) supplementation.
- ² PVOs are encouraged modify this question, since immunization practices may vary by country, as may terms used for the written record and for the vaccinations. Add yellow fever, rubella, MMR, HIB (3 doses), and hepatitis B (3 doses) in project areas where these vaccinations are listed on the vaccination card.
- ³ PVO to adapt question locally after determining the most common injection site.

TABULATION PLAN

This module is designed to find out about the nature and extent of child immunization coverage in the target population. Table 4A-1 presents a list of key indicators that can be derived from the Childhood Immunization Module. Only children who possess a vaccination card are included in these indicators (except for the card possession and measles indicator).

TABLE 4A-1: CHILDHOOD IMMUNIZATION INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>Vitamin A Coverage</i>	<p>Percent of children aged 6-23 months who received a Vitamin A dose in the last six months</p> $\frac{\text{No. of children aged 6-23 months with response=1 for Q.1}}{\text{Total no. of children aged 6-23 months}} \times 100$
<i>Possession of Vaccination Card</i>	<p>Percent of children aged 0-23 months who have a vaccination card</p> $\frac{\text{No. of children with response= 1 for Q.2}}{\text{Total no. of children aged 0-23 months}} \times 100$
<i>EPI Access</i>	<p>Percent of children aged 12-23 months who received DPT1</p> $\frac{\text{No. of children aged 12-23 months with DPT1 vaccine (card-confirmed, Q.3)}}{100} \times \text{Total no. of children aged 12-23 months with cards}$
<i>Rapid CATCH indicator: Measles Vaccination Coverage</i>	<p>Percent of children aged 12-23 months who received measles vaccine</p> $\frac{\text{No. of children age 12-23 months who received measles vaccine according to Q.3 OR with response=1 for Q. 6G}}{\text{Total no. of children aged 12-23 months}} \times 100$
<i>Drop Out Rate</i>	<p>Percent of drop-outs between DPT1 and DPT3</p> $\frac{(\text{No. of children age 12-23 months who received DPT1 [Q.3]}) - (\text{No. of children aged 12-23 months who received DPT3 [Q.3]})}{\text{Total no. of children aged 12-23 months with cards who received DPT1 (Q.3)}} \times 100$
<i>Rapid CATCH indicator: EPI Coverage I</i>	<p>Percent of children aged 12-23 months who received BCG, DPT3, OPV3, and measles vaccines before the first birthday</p> $\frac{\text{No. of children aged 12-23 months with BCG, DPT3, OPV3, and measles (card-confirmed, Q.3) before first birthday}}{\text{Total no. of children aged 12-23 months with cards}} \times 100$
<i>EPI Coverage II (liberal criterion)</i>	<p>Percent of children aged 12-23 months who received OPV3</p> $\frac{\text{No. of children aged 12-23 months with OPV3 before age 12 months (card-confirmed, Q.3)}}{\text{Total no. of children aged 12-23 months with cards}} \times 100$

Given its relatively small sample size, data from the KPC may be tabulated either manually or by computer. Table 4A-2 is an example of a manual (hand) tabulation table for Q.3. Note that only children aged 12-23 months are included in the table. In order to identify the correct age group, place questionnaires in one of two piles (or folders) representing a) 0-11 month-olds and b) 12-23 month-olds. Separate tabulation tables can then be calculated for each age group.

For each child, a check mark (T) would be placed in the row of the category that matches his/her mother's response. The frequency column indicates the number of children with a particular response (i.e., total number of check marks in a specific row), whereas the percent column is the number of children with that response divided by the total number of children for whom the question was asked.

TABLE 4A-2: EXAMPLE OF HAND TABULATION TABLE FOR Q.3
(for children aged 12-23 months)

CATEGORY		CHECK MARKS (T)	FREQUENCY	PERCENT
A	BCG			
B	POLIO 0			
C	POLIO 1			
D	POLIO 2			
E	POLIO 3			
F	DPT 1			
G	DPT 2			
H	DPT 3			
I	MEASLES			
J	VITAMIN A (MOST RECENT)			
TOTAL NUMBER OF CHILDREN AGED 12-23 MONTHS WITH CARDS				100.0
OVERALL FINDING BASED ON THIS TABULATION:				

Most of the indicators listed in Table 4A-1 can be derived from the above table. When determining the extent of full coverage, the following table may be useful:

TABLE 4A-3: EXAMPLE OF HAND TABULATION TABLE USED TO DERIVED EPI COVERAGE INDICATOR
(for children aged 12-23 months)

(NAME) RECEIVED THE FOLLOWING VACCINES: BCG DPT3 OPV3 MEASLES	CHECK MARKS (T)	FREQUENCY	PERCENT
Yes, before first birthday			
Yes, after first birthday			
No			
TOTAL NUMBER OF CHILDREN AGED 12-23 MONTHS WITH CARDS			100.0
OVERALL FINDING BASED ON THIS TABULATION:			

REFERENCES FOR IMMUNIZATION-RELATED SURVEYS

Listed below are other surveys with questions, sections or modules on immunization that may be of assistance when modifying the KPC to meet the needs of your particular project.

- (1) CARE (1999). *Rapid Impact Evaluation Survey* (Qs. 29-31).

- (2) Christian Children's Fund-Angola (1999). *KPC Questionnaire* (Qs. PF01-PF20); *Focus Group Questionnaire*.
- (3) ORC Macro (2000). *MEASURE DHS+ Model A Questionnaire for High Contraceptive Prevalence Countries*. Calverton, Maryland: ORC Macro. (Qs. 454-465).
- (4) UNICEF (1995). *Multiple Indicator Cluster Survey* (Vitamin A and Immunization Modules).

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 4B: SICK CHILD**

The purpose of this module is twofold. First, it documents the mother's ability to recognize key signs that the child is ill and needs treatment. Second, it identifies children who have been sick with specific illnesses during the past two weeks. Depending on the conditions experienced by the child, the interviewer will then go to one of the following disease modules:

MODULE 4C: Diarrhea
MODULE 4D: Acute Respiratory Illnesses
MODULE 4E: Malaria

This module is self-explanatory and serves primarily as a triage for the above three modules. Even though it does not have its own set of interviewer instructions and a tabulation plan, it does yield one important indicator:

INDICATOR	DESCRIPTION/DEFINITION
<i>Maternal Knowledge of Child Danger Signs</i>	Percent of mothers of children aged 0-23 months who know at least two signs of childhood illness that indicate the need for treatment No. of mothers who report at least two of the signs listed in responses B through H of Q. 1 Total no. of mothers of children aged 0-23 months
	$\frac{\text{No. of mothers who report at least two of the signs listed in responses B through H of Q. 1}}{\text{Total no. of mothers of children aged 0-23 months}} \times 100$

The above indicator can be obtained from the KPC2000 *Rapid CATCH*. Below, Questions 1 and 2 are highlighted to indicate that they are *CATCH* questions.

IDENTIFICATION	
CLUSTER NUMBER	
HOUSEHOLD NUMBER	
RECORD NUMBER	

AGE OF CHILD (IN MONTHS)
SEX OF CHILD (1=MALE, 2=FEMALE)

CHILDHOOD ILLNESS			
NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	<p>Sometimes children get sick and need to receive care or treatment for illnesses. What are the signs of illness that would indicate your child needs treatment?</p> <p>RECORD ALL MENTIONED.</p>	<p>DON'T KNOW A</p> <p>LOOKS UNWELL OR NOT PLAYING NORMALLY B</p> <p>NOT EATING OR DRINKING C</p> <p>LETHARGIC OR DIFFICULT TO WAKE D</p> <p>HIGH FEVER E</p> <p>FAST OR DIFFICULT BREATHING F</p> <p>VOMITS EVERYTHING G</p> <p>CONVULSIONS H</p> <p>OTHER I</p> <p>(SPECIFY)</p> <p>OTHER J</p> <p>(SPECIFY)</p> <p>OTHER K</p> <p>(SPECIFY)</p>	
2	<p>Did (NAME) experience any of the following in the past two weeks?</p> <p>CIRCLE ALL THAT APPLY</p> <p>Diarrhea?</p> <p>Blood in stool?</p> <p>Cough?</p> <p>Difficult breathing</p> <p>Fast breathing or short, quick breaths?</p> <p>Fever?</p> <p>Malaria?</p> <p>Convulsions?</p>	<p>DIARRHEA A</p> <p>BLOOD IN STOOL B</p> <p>COUGH C</p> <p>DIFFICULT BREATHING D</p> <p>FAST BREATHING/SHORT, QUICK BREATHS E</p> <p>FEVER F</p> <p>MALARIA G</p> <p>CONVULSIONS H</p>	
3	<p>Did (NAME) experience any other illnesses in the past two weeks?</p>	<p>SPECIFY:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	

4	<p>REFER BACK TO QUESTION 2 AND LOOK AT THE MOTHER'S RESPONSES.</p> <p>IF A OR B: ADMINISTER DIARRHEA MODULE</p> <p>IF C, D, OR E: ADMINISTER ARI MODULE</p> <p>IF F, G, OR H: ADMINISTER MALARIA MODULE</p> <p>MORE THAN ONE MODULE MAY APPLY. ADMINISTER ALL THAT ARE APPLICABLE.</p>	<p><u>CHECK WHICH MODULES APPLY</u></p> <p>MODULE 4C (DIARRHEA) <input type="checkbox"/></p> <p>MODULE 4D (ARI) <input type="checkbox"/></p> <p>MODULE 4E (MALARIA) <input type="checkbox"/></p>	
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Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 4C: DIARRHEA**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

The Diarrhea Module consists of 14 questions. The first 10 questions pertain to diarrhea case management. The remaining questions are divided into two sub-modules, which provide information on 1) the mother's ability to prepare oral rehydration solution (ORS) and 2) diarrhea prevention via hand washing. Question 3 of sub-module B is highlighted to indicate that it also appears in the KPC2000 *Rapid CATCH*.

ASKING QUESTIONS AND RECORDING ANSWERS

In this module, most of the information that you will record is based upon answers directly provided by the mother. Two exceptions are Question 1 in sub-module A, which assesses the mother's ability to prepare ORS, and Question 2 in sub-module B, which assesses the quality of the household's designated hand-washing facility. For these questions, you will make observations then circle the appropriate responses on the questionnaire.

For all other questions, you will ask the mother for information about her child. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

Most questions in this module have precoded responses. It is important that you do not read these choices aloud to the mother. When you ask a question, you should listen to the mother's response then circle the code next to the category that best matches her answer. For some questions, an OTHER code is included in the list of precoded responses. If the mother provides an answer that does not fit into any of the precoded categories, circle the OTHER code and write the mother's answer in the blank space provided.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age and sex in the second set of boxes.

Q.1: DIARRHEA IN LAST TWO WEEKS

Diarrhea is common among children in many countries and can have serious effects on a child's health and nutritional status. A response of YES to Question 1 is appropriate only if the child had diarrhea during the two weeks before the date of the interview. If the mother is unsure what you mean by "diarrhea," tell her that it means "three or more watery stools on the same day, or blood in the stool." If the child did not experience diarrhea in the last two weeks, do not ask the other questions in this section.

Q.2: TREATMENT OF DIARRHEA

This question asks the mother about the type of treatment her child received for diarrhea. The treatment may have been given by anyone, not just the mother. Record all answers.

If (NAME) did not receive treatment, circle A (NOTHING). "Fluid from ORS packet" is a special treatment that consists of combining a small packet of powder with water. The packets are usually available through health facilities, pharmacies, and field workers. Only circle C (home-made fluid) if the mother reports a government-recommended home-made fluid, which may be a cereal-based mixture or it may be made from sugar, salt, and water.

Q.3 and 4: FLUID INTAKE DURING THE DIARRHEAL EPISODE

Q.5: FOOD INTAKE DURING THE DIARRHEAL EPISODE

Mothers may change the amount of fluids or foods given to a child who has diarrhea. For Questions 3, 4, and 5 read the entire question before accepting a response. Broths and clear soups are considered as liquids.

Qs.6, 7, 8, 9 and 10: ADVICE, TREATMENT, AND DECISION-MAKING FOR DIARRHEA

Question 6 asks if advice or treatment was sought for (NAME's) diarrhea. If the mother answers YES, record the place where she sought advice or treatment in Questions 7 and 9. If the mother sought advice or treatment from more than one source, circle the correct code for each facility or person mentioned. Note that the response codes are letters instead of number to remind you that more than one response is possible. In Question 8, we want to know if the respondent, by herself, can make the decision to take a seriously ill child for medical treatment. If a respondent says "I can but only when my husband is at work. If he is at home I must ask him first", then circle B for HUSBAND/PARTNER.

SUB-MODULE A, Q.1: ORS PREPARATION

Mothers may have heard of ORS and may even use it during a child's diarrheal episode; however, they may not know the correct way to prepare the solution. In this question, you will ask the mother to describe how she would prepare ORS.

You will then record whether the mother described ORS preparation correctly or incorrectly. Correct preparation involves the following:

- a) combining the ORS packet with 1 liter (= 3 soda bottles) of clean drinking water
- b) using the entire packet
- c) dissolving the powder fully in the water.

If the mother does not do one or more of the above, circle 2 [INCORRECTLY] on the questionnaire.

SUB-MODULE B, Q.1: HOUSEHOLD HAND-WASHING FACILITY

Hand-washing practices are an indicator of cleanliness. Washing hands, especially before handling food, can protect persons from various diseases such as diarrhea. In Question 1, ask the mother if the household has a special place where household members wash their hands.

SUB-MODULE B, Q.2: QUALITY OF HOUSEHOLD HAND-WASHING FACILITY

If the mother reports that there is a special hand-washing facility, ask to see it and observe whether the following are present: A) water/tap; B) soap, ash, or other cleansing agent; C) basin. For each item, circle 1 if it is present and 2 if it is absent.

SUB-MODULE B, Q.3: MOTHER'S HAND-WASHING PRACTICES

Question 3 is asked of all mothers, even if the household does not have a hand-washing facility. Circle all answers mentioned. Once again, letter codes are used to remind you that more than one response is accepted. This question also appears in the *Rapid CATCH*.

SKIP PATTERNS FOR DIARRHEA MODULE

It is very important that you ask the mother only those questions that are relevant to her child's situation. For example, a mother whose child did not have diarrhea in the last two weeks should not be asked questions about fluid intake during a diarrheal episode. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. The following list summarizes all skip patterns within the Diarrhea Module.

	Question	Response	Instructions
DIARRHEA TREATMENT	Q.1. "Has (NAME) had diarrhea in the last two weeks?"	yes (1) no (2); don't know (8)	Go to Q.2 END MODULE
	Q.6. "Did you seek advice or treatment from someone outside of the home for (NAME'S) diarrhea?"	yes (1) no (2)	Go to Q.7 END MODULE
DIARRHEA PREVENTION	Q.1. "Does your household have a special place for hand washing?"	yes (1) no (2)	Go to Q.2 SKIP TO Q.3

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C How do children in this community get diarrhea?
- C What can a person do to avoid getting diarrhea?
- C What are some of the signs and symptoms of a child who has diarrhea?
- C What do mothers usually do when their children have diarrhea?
- C If your child had diarrhea, how would you know if the situation was serious enough to seek help or advice?
- C If your child had diarrhea, where would you go for advice on how to treat the diarrhea?
- C What is the purpose of ORS?

The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to diarrhea. As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena that were identified but not sufficiently explained by the KPC.

IDENTIFICATION

CLUSTER NUMBER
HOUSEHOLD NUMBER
RECORD NUMBER

AGE OF CHILD (IN MONTHS)
SEX OF CHILD (1=MALE, 2=FEMALE)

DIARRHEA CASE MANAGEMENT

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Has (NAME) had diarrhea in the last 2 weeks? ¹	YES 1 NO 2 DON'T KNOW 8	h.e.END
2	What was given to treat the diarrhea? ² Anything else? RECORD ALL MENTIONED.	NOTHING A FLUID FROM ORS PACKET B HOME-MADE FLUID C PILL OR SYRUP D INJECTION E (IV) INTRAVENOUS F HOME REMEDIES/ HERBAL MEDICINES G OTHER _____ X (SPECIFY)	
3	When (NAME) had diarrhea, did you breastfeed him/her less than usual, about the same amount, or more than usual?	LESS 1 SAME 2 MORE 3 CHILD NOT BREASTFED 4 DON'T KNOW 8	
4	When (NAME) had diarrhea, was he/she offered less than usual to drink, about the same amount, or more than usual to drink?	LESS 1 SAME 2 MORE 3 NOTHING TO DRINK 4 DON'T KNOW 8	
5	Was (NAME) offered less than usual to eat, about the same amount, or more than usual to eat?	LESS 1 SAME 2 MORE 3 NOTHING TO EAT 4 DON'T KNOW 8	
6	Did you seek advice or treatment from someone outside of the home for (NAME'S) diarrhea?	YES 1 NO 2	<END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
7	<p>Where did you first go for advice or treatment? ³</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE.</p> <p>_____</p> <p>(NAME OF PLACE)</p>	<p>HEALTH FACILITY</p> <p>HOSPITAL 01</p> <p>HEALTH CENTER 02</p> <p>HEALTH POST 03</p> <p>PVO CENTER 04</p> <p>CLINIC 05</p> <p>FIELD/COMMUNITY HEALTH WORKER 06</p> <p>OTHER HEALTH FACILITY 07</p> <p>(SPECIFY)</p> <p>OTHER SOURCE</p> <p>TRADITIONAL PRACTITIONER 08</p> <p>SHOP 09</p> <p>PHARMACY 10</p> <p>COMMUNITY DISTRIBUTORS 11</p> <p>FRIEND/RELATIVE 12</p> <p>OTHER 88</p> <p>(SPECIFY)</p>	
8	<p>Who decided that you should go there for (NAME'S) illness?</p> <p>RECORD ALL MENTIONED.</p>	<p>RESPONDENT A</p> <p>HUSBAND/PARTNER B</p> <p>RESPONDENT'S MOTHER C</p> <p>MOTHER-IN-LAW D</p> <p>FRIENDS/NEIGHBORS E</p> <p>OTHER X</p> <p>(SPECIFY)</p>	
9	<p>Where did you go next for advice or treatment? ⁴</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE.</p> <p>_____</p> <p>(NAME OF PLACE)</p>	<p>HEALTH FACILITY</p> <p>HOSPITAL 01</p> <p>HEALTH CENTER 02</p> <p>HEALTH POST 03</p> <p>PVO CENTER 04</p> <p>CLINIC 05</p> <p>FIELD/COMMUNITY HEALTH WORKER 06</p> <p>OTHER HEALTH FACILITY 07</p> <p>(SPECIFY)</p> <p>OTHER SOURCE</p> <p>TRADITIONAL PRACTITIONER 08</p> <p>SHOP 09</p> <p>PHARMACY 10</p> <p>COMMUNITY DISTRIBUTORS 11</p> <p>FRIEND/RELATIVE 12</p> <p>OTHER 88</p> <p>(SPECIFY)</p>	
10	<p>During the period when (NAME) was recovering from diarrhea, did you give him/her less than usual to drink, about the same amount, or more than usual to drink?</p>	<p>LESS 1</p> <p>SAME 2</p> <p>MORE 3</p> <p>NOTHING TO DRINK 4</p> <p>DON'T KNOW 8</p>	

- ¹ The term(s) used for diarrhea should encompass the expressions used for all forms of diarrhea, including bloody stools (consistent with dysentery), watery stools, etc.
- ² The response categories should be adapted to include the terms used locally for the recommended home fluid. The ingredients promoted by the National Control of Diarrheal Diseases Program or by the Ministry of Health for making the recommended home fluid should be reflected in the categories.
- ³ PVOs are encouraged to modify response categories as necessary. However, the broad categories should be maintained.

SUB-MODULE A: OPTIONAL QUESTION ON ORS PREPARATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	<p>Have you heard of ORS?</p> <p>IF YES, ASK MOTHER TO DESCRIBE ORS PREPARATION FOR YOU. IF NO, CIRCLE 3 (NEVER HEARD OF ORS).</p> <p>ONCE MOTHER HAS PROVIDED A DESCRIPTION, RECORD WHETHER SHE DESCRIBED ORS PREPARATION CORRECTLY OR INCORRECTLY.</p> <p>CIRCLE 1 [CORRECTLY] IF THE MOTHER MENTIONED THE FOLLOWING:</p> <p>C USE 1 LITER OF CLEAN DRINKING WATER (1 LITER=3 SODA BOTTLES)</p> <p>C USE THE ENTIRE PACKET</p> <p>C DISSOLVE THE POWDER FULLY</p>	<p>DESCRIBED CORRECTLY 1</p> <p>DESCRIBED INCORRECTLY 2</p> <p>NEVER HEARD OF ORS 3</p>	

SUB-MODULE B: OPTIONAL MODULE ON PREVENTIVE BEHAVIORS FOR DIARRHEA

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Does your household have a special place for hand washing?	<p>YES 1</p> <p>NO 2</p>	<3
2	<p>ASK TO SEE THE PLACE USED MOST OFTEN FOR HAND WASHING AND OBSERVE IF <u>EACH</u> OF THE FOLLOWING ITEMS ARE PRESENT</p>	<p>YES NO</p> <p>(A) WATER/TAP 1 2</p> <p>(B) SOAP, ASH, OR OTHER CLEANSING AGENT 1 2</p> <p>© BASIN 1 2</p>	
3	<p>When do you usually wash your hands with soap/ash?</p> <p>RECORD ALL MENTIONED.</p>	<p>NEVER A</p> <p>BEFORE FOOD PREPARATION B</p> <p>BEFORE FEEDING CHILDREN C</p> <p>AFTER DEFECACTION D</p> <p>AFTER ATTENDING TO A CHILD WHO HAS DEFECCATED E</p> <p>OTHER _____ X</p> <p>(SPECIFY)</p>	

Note: The questions in sub-module B also appear in the Water and Sanitation Module (Module 1A)

TABULATION PLAN

This module is designed to find out about treatment and the changes in dietary intake during a recent diarrheal episode. The module is not intended to yield a prevalence estimate of diarrhea in children. Table 4C-1 presents indicators that can be derived from the Diarrhea Module.

TABLE 4C-1: DIARRHEA INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>ORT Use During a Diarrheal Episode</i>	Percent of children aged 0-23 months with diarrhea in the last two weeks who received oral rehydration solution (ORS) and/or recommended home fluids (RHF) $\frac{\text{No. of children with responses B or C for Q.2}}{\text{No. of children with responses to Q.2}} \times 100$
<i>Increased Fluid Intake During a Diarrheal Episode</i>	Percent of children aged 0-23 months with diarrhea in the last two weeks who were offered more fluids during the illness $\frac{\text{No. of children with response= 3 for Q.3 or Q.4}}{\text{No. of children with response=1 for Q.1}} \times 100$
<i>Increased Food Intake During a Diarrheal Episode</i>	Percent of children aged 0-23 months with diarrhea in the last two weeks who were offered the same amount or more food during the illness $\frac{\text{No. of children with response=2 or 3 for Q.5}}{\text{No. of children with responses to Q.5}} \times 100$
<i>Care-seeking for Diarrhea</i>	Percent of children aged 0-23 months with diarrhea in the last two weeks whose mothers sought outside advice or treatment for the illness $\frac{\text{No. of children with response= 1 for Q.6}}{\text{No. of children with responses to Q.6}} \times 100$
<i>Maternal Competency in ORS Preparation</i>	Percent of mothers who can correctly prepare ORS $\frac{\text{No. of mothers with response= 1 for Q.1, sub-module A}}{\text{Total no. of mothers with responses to Q.1, sub-module A}} \times 100$
<i>Presence of Household Hand-washing Facility</i>	Percent of households with a designated hand-washing facility $\frac{\text{No. of mothers with response= 1 for Q.1, sub-module B}}{\text{Total no. of mothers with responses to Q.1, sub-module B}} \times 100$
<i>Presence of Soap at Hand-washing Facility</i>	Percent of households with a designated hand-washing facility that has soap or other cleansing agent present $\frac{\text{No. of mothers with response= 1 for Q.2B, sub-module B}}{\text{Total no. of mothers with responses to Q.2, sub-module B}} \times 100$
<i>Maternal Hand Washing Before Food Preparation</i>	Percent of mothers who usually wash their hands with soap or ash before food preparation, before feeding children, after defecation, and after attending to a child who has defecated $\frac{\text{No. of mothers with responses B through E for Q.3, sub-module B}}{\text{Total no. of mothers with responses to Q.3, sub-module B}} \times 100$

Data from the KPC may be tabulated either manually or by computer. Below is an example of a manual (hand) tabulation table for Q.2. For each child, a check mark (T) would be placed in the row of the category that matches his/her mother's response. The

frequency column indicates the number of children with a particular response (i.e., total number of check marks in a specific row), whereas the percent column is the number of children with that response divided by the total number of children for whom the question was asked.

TABLE 4C-2: EXAMPLE OF HAND TABULATION TABLE FOR Q.2
(“What was given to treat the diarrhea?”)

CODE	CATEGORY	CHECK MARKS (T)	FREQUENCY	PERCENT
A	NOTHING			
B	ORS			
C	HOME-MADE FLUID			
D	PILL/SYRUP			
E	INJECTION			
F	IV			
G	HOME REMEDIES			
X	OTHER			
TOTAL NUMBER OF CHILDREN WITH ANSWERS TO Q.2				100.0
OVERALL FINDING BASED ON THIS TABULATION:				

In the above table, it is possible that the total number of responses will exceed the total number of children in the sample. This is due to the fact that the child may have received more than one type of treatment for his/her diarrhea. Since the rationale for asking Q.2 is to identify children with diarrhea who received ORT (i.e., oral rehydration solution or recommended home fluids), the data could be reorganized as follows:

TABLE 4C-3: CROSS TABULATION TABLE FOR DIARRHEA IN THE LAST TWO WEEKS
AND WHETHER THE CHILD RECEIVED ORAL REHYDRATION THERAPY (ORT)

DID (NAME) RECEIVE ORT (ORS and/or RHF)?	CHECK MARKS (T)	FREQUENCY	PERCENT
yes			
no			
TOTAL NUMBER OF CHILDREN WITH ANSWERS TO Q.2			100.0
OVERALL FINDING BASED ON THIS TABULATION:			

In reorganizing the data in the above fashion, one may derive the ORT use indicator (as defined in Table 4C-1) directly from Table 4C-3. The indicator is simply the percentage of children who fall into the YES category. In order to cross tabulate a question with child's age, place questionnaires in different piles or folders according to the child's age group. Separate tabulation tables can then be calculated for each age group. This process can be performed for a number of socio-demographic and behavioral variables.

REFERENCES FOR DIARRHEA-RELATED SURVEYS

Listed below are other surveys with questions, sections or modules on diarrhea prevention/care that may be of assistance when modifying the KPC to meet the needs of your particular project.

- (1) CARE (1999). *Rapid Impact Evaluation Survey* (Diarrhea Survey).
- (2) Christian Children's Fund-Angola (1999). *KPC Questionnaire* (Qs. PG07-PG12); *Focus Group Questionnaire*.

(3) ORC Macro (2000). *MEASURE DHS+ Model A Questionnaire for High Contraceptive Prevalence Countries* (Questions 475-483).

(4) UNICEF (1995). *Multiple Indicator Cluster Survey* (Care of Illness Module).

Rapid Knowledge, Practices and Coverage (KPC) Survey

MODULE 4D: ACUTE RESPIRATORY INFECTIONS (ARI)

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

The ARI Module is composed of nine questions on Acute Respiratory Infections case management.

ASKING QUESTIONS AND RECORDING ANSWERS

In this module, the information that you will record is based upon answers directly provided by the mother. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

Most questions in this module have precoded responses. It is important that you do not read these choices aloud to the mother. When you ask a question, you should listen to the mother's response then circle the code next to the category that best matches her answer. For some questions, an OTHER code is included in the list of precoded responses. If the mother provides an answer that does not fit into any of the precoded categories, circle the OTHER code and write the mother's answer in the blank space provided.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age and sex in the second set of boxes.

Q.1: ILLNESS WITH A COUGH IN THE LAST TWO WEEKS

A response of YES is only appropriate if the child had a cough during the two weeks before the date of the interview.

Q.2: COUGH WITH SHORT, FAST BREATHS OR DIFFICULT BREATHING

This question is only asked if the child had a cough in the past two weeks. Pneumonia and respiratory infections, which can be accompanied by short, rapid breathing or difficult breathing, are principal causes of death among children.

Qs. 3 through 9: ADVICE OR TREATMENT FOR COUGH WITH FAST/DIFFICULT BREATHING

Question 3 asks the mother if she sought advice or treatment for her child's cough and fast /difficult breathing. If she answers YES, probe to determine how long after she noticed those symptoms that she sought treatment. Allow her to give a response then circle the category in Question 4 that best matches her answer. In Question 5, you will ask where she first sought treatment. You will then record who made that decision in Question 6. Question 7 asks whether advice/treatment was sought anywhere else. If the mother answers YES, then record the person or place where care was sought in Question 8. In Question 9, you will refer back to the mother's answers to Questions 5 and 8 to determine whether she sought any facility-based care. For children who did not go to a health facility, Question 10 aims to identify the drugs prescribed to treat the child's illness. If the drug's name is not known, ask to see the prescription bottle to help identify the particular drug therapy.

SKIP PATTERNS FOR ARI MODULE

It is very important that you ask the mother only those questions that are relevant to her child's situation. For example, a mother whose child did not have cough with fast/difficult breathing in the last two weeks should not be asked questions about advice or treatment sought for cough/fast breathing. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. The following list summarizes all skip patterns within the Acute Respiratory Infections Module.

Question	Response	Instructions
Q.1. "Has (NAME) had an illness with cough at any time in the last 2 weeks?"	yes (1) no (2); don't know (8)	Go to Q.2 END MODULE
Q.2. "When (NAME) had an illness		

with a cough, did he/she have trouble breathing or breath faster than usual, with short, fast breaths?"	yes (1) no (2); don't know (8)	Go to Q.3 END MODULE
Q.3. "Did you seek advice or treatment for the cough/fast breathing?"	yes (1) no (2)	Go to Q.4 END MODULE
Q.7. "Did you go anywhere else for advice or treatment for (NAME'S) cough and fast/difficult breathing?"	yes (1) no (2)	Go to Q.8 SKIP TO Q.9
Q.9.	WENT TO HEALTH FACILITY (1) DID NOT GO TO HEALTH FACILITY (2)	END MODULE Go to Q.10

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than a structured questionnaire. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C Sometimes children have severe illnesses and should be taken immediately to a health facility. What types of symptoms would cause you to take your child to a health facility right away?
- C How does a child get a cough?
- C What can be done to treat a cough?
- C What are symptoms of pneumonia?

As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena that were identified but not sufficiently explained by the KPC.

IDENTIFICATION

CLUSTER NUMBER

HOUSEHOLD NUMBER

RECORD NUMBER

AGE OF CHILD (IN MONTHS)

SEX OF CHILD (1=MALE, 2=FEMALE)

ACUTE RESPIRATORY INFECTIONS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Has (NAME) had an illness with a cough at any time in the last two weeks?	YES 1 NO 2 DON'T KNOW 8	<END
2	When (NAME) had an illness with a cough, did he/she have trouble breathing or breathe faster than usual with short, fast breaths?	YES 1 NO 2 DON'T KNOW 8	<END
3	Did you seek advice or treatment for the cough/fast breathing?	YES 1 NO 2	<END
4	How long after you noticed (NAME's) cough and fast breathing did you seek treatment?	SAME DAY 0 NEXT DAY 1 TWO DAYS 2 THREE OR MORE DAYS 3	
5	Where did you first go for advice or treatment? ¹ IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HEALTH FACILITY HOSPITAL 01 HEALTH CENTER 02 HEALTH POST 03 PVO CENTER 04 CLINIC 05 FIELD/COMMUNITY HEALTH WORKER 06 OTHER HEALTH FACILITY 07 (SPECIFY) OTHER SOURCE TRADITIONAL PRACTITIONER 08 SHOP 09 PHARMACY 10 COMMUNITY DISTRIBUTORS 11 FRIEND/RELATIVE 12 OTHER 88 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
6	Who decided that you should go there for (NAME'S) illness? RECORD ALL MENTIONED.	RESPONDENT A HUSBAND/PARTNER B RESPONDENT'S MOTHER C MOTHER-IN-LAW D FRIENDS/NEIGHBORS E OTHER _____ X (SPECIFY)	
7	Did you go anywhere else for advice or treatment for (NAME'S) cough and fast/difficult breathing?	YES 1 NO 2	<9
8	Where did you go next for advice or treatment? ¹ IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HEALTH FACILITY HOSPITAL 01 HEALTH CENTER 02 HEALTH POST 03 PVO CENTER 04 CLINIC 05 FIELD/COMMUNITY HEALTH WORKER 06 OTHER HEALTH FACILITY _____ 07 (SPECIFY) OTHER SOURCE TRADITIONAL PRACTITIONER 08 SHOP 09 PHARMACY 10 COMMUNITY DISTRIBUTORS 11 FRIEND/RELATIVE 12 OTHER _____ 88 (SPECIFY)	
9	LOOK AT THE MOTHER'S RESPONSES TO QUESTIONS 5 AND 8. IF THE MOTHER DID NOT REPORT TAKING (NAME) TO A HEALTH FACILITY IN EITHER QUESTION 5 OR QUESTION 8, ASK QUESTION 10. IF SHE REPORTED GOING TO A HEALTH FACILITY IN QUESTION 5 AND/OR QUESTION 8, END THE MODULE. 1. WENT TO HEALTH FACILITY (RESPONSES 01-07 FOR Q.5 OR Q.8) <input type="checkbox"/> --->END 2. DID NOT GO TO HEALTH FACILITY (RESPONSES 08-88 FOR Q.5 OR Q.8) <input type="checkbox"/> --->Q.10		
10	Which medicines were given to (NAME)? ¹ RECORD ALL MENTIONED.	NOTHING A ASPIRIN B PANADOL C AMOXICILLIN D ERYTHROMYCIN E AZITHROMYCIN F OTHER _____ X (SPECIFY) DON'T KNOW Z	

¹ PVOs are encouraged to modify response categories as necessary. However, the broad categories should be maintained.

TABULATION PLAN

This module is designed to find out about treatment for acute respiratory infections (ARI), which is defined as cough with fast/difficult breathing. The module is not intended to yield a prevalence estimate of ARI in children.

TABLE 4D-1: ARI INDICATOR

INDICATOR	DESCRIPTION/DEFINITION
ARI Care-seeking	Percent of children aged 0-23 months with cough and fast/difficult breathing in the last two weeks who were taken to a health facility or received antibiotics from an alternative source No. of children with response=1 [WENT TO HEALTH FACILITY] for Q.9 -or- with response=D, E, or F for Q.10 $\frac{\text{No. of children with response=1 for Q. 2}}{\text{No. of children with response=1 for Q. 2}} \times 100$

Below is an example of a manual (hand) tabulation table to determine which children were taken to a health facility. For each child, a check mark (T) would be placed in the row of the category that matches his/her mother's response. The frequency column indicates the number of children with a particular response (i.e., total number of check marks in a specific row), whereas the percent column is the number of children with that response divided by the total number of children for whom the question was asked.

The rationale behind Questions 5 and 8 is to identify children who received facility-based care. In Question 9, a child is classified in the YES category if the mother reported at least one type of health facility-based care (codes 01-07 of Questions 5 and 8). Below is a hand tabulation table for Question 9.

TABLE 4D-2: TABULATION OF CHILDREN WHO RECEIVED FACILITY-BASED CARE

DID (NAME) RECEIVE HEALTH FACILITY-BASED CARE?	CHECK MARKS (T)	FREQUENCY	PERCENT
yes			
no			
TOTAL NUMBER OF RESPONSES			100.0
OVERALL FINDING BASED ON THIS TABULATION:			

The responses to Q. 10 can be collapsed into two categories. Based upon the list of responses presented in this module, children with responses D, E, or F would be classified as YES.

TABLE 4D-3: TABULATION OF CHILDREN WHO DID NOT GO TO A HEALTH FACILITY BUT RECEIVED ANTIBIOTICS

DID (NAME) RECEIVE ANTIBIOTICS?	CHECK MARKS (T)	FREQUENCY	PERCENT
yes			
no			
TOTAL NUMBER OF RESPONSES TO Q.10			100.0
OVERALL FINDING BASED ON THIS TABULATION:			

In order to identify the children who belong in the numerator of the indicator listed in Table 4D-1, simply add the number of children in the YES category in Table 4D-2 and the number of children in the YES category in Table 4D-3.

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REFERENCES FOR ARI-RELATED SURVEYS

Listed below are other surveys that may be of assistance when modifying the KPC to meet the needs of your particular project.

(1) CARE (1999). *Rapid Impact Evaluation Survey* (ARI Survey).

(2) Christian Children's Fund-Angola (1999). *KPC Questionnaire* (Qs. PG03-PG06); *Focus Group Questionnaire*.

(3) ORC Macro (2000). *MEASURE DHS+ Model A Questionnaire for High Contraceptive Prevalence Countries* (Qs. 467-471).
Calverton, Maryland: ORC Macro.

(4) UNICEF (1995). *Multiple Indicators Cluster Survey* (Care of Illness Module).

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 4E: MALARIA**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

The Malaria Module contains 15 questions on malaria case management and two sub-modules on malaria prophylaxis during pregnancy and bednet use and maintenance. In the sub-module on bednet use/maintenance, Questions 1, 2, and 4 are highlighted to indicate that they also appear in the *Rapid CATCH*.

ASKING QUESTIONS AND RECORDING ANSWERS

In this module, most of the information that you will record is based upon answers directly provided by the mother. One exception is Question 7 in sub-module B, which assesses the quality of the child's mosquito bednet. For that question, you are instructed to inspect the bednet and note its condition on the questionnaire. For all other questions, you will ask the mother for information about her child. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

Most questions in this module have precoded responses. It is important that you do not read these choices aloud to the mother. When you ask a question, you should listen to the mother's response then circle the code next to the category that best matches her answer. For some questions, an OTHER code is included in the list of precoded responses. If the mother provides an answer that does not fit into any of the precoded categories, circle the OTHER code and write the mother's answer in the blank space provided.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age and sex in the second set of boxes.

Qs.1 and 2: FEVER IN LAST TWO WEEKS

Fever is a common symptom of malaria, which is a major cause of illness and death among young children in many countries. A response of YES to Question 1 is appropriate only if the fever occurred during the two weeks before the date of the interview. Question 2 identifies children who had a febrile episode that ended within the two weeks preceding the survey.

Qs.3 through 14: TREATMENT FOR FEVER

Questions 3 through 14 document information related to the treatment of fever. In Question 3, you will ask whether the mother sought advice or treatment for (NAME'S) fever. You will then note the first and second places that she went for treatment in Questions 4 and 8. Questions 5 and 9 ask how long after the mother noticed the fever that she sought treatment.

In Question 10, you will refer back to the mother's answers in Questions 4 and 8 to see if she mentioned a health facility. If she did, check YES and proceed to Question 11. If she did not seek care from a health facility, check NO and skip to Question 12. Circle all medicines given to (NAME) in Question 13. The precoded list of responses for this question includes anti-malarial and other drugs. The mother may report more than one drug, and it is important that you record all that are mentioned. If the mother is unable to recall the name of the drug, ask her to show it to you. If she cannot provide you with the medicine that she gave the child, show her examples of each anti-malarial drug and ask her to identify which, if any, were given to the child. For each anti-malarial drug, you must also circle the correct code that reflects the number of days after the fever started that the child began taking the medicine [0=same day, 1=one day, 2=two days, 3= three or more days, 8=don't know]. Question 14 asks if any of those medicines were injections.

SUB-MODULE A, Qs.1 AND 2

These two questions pertain to malaria prophylaxis during pregnancy. In Question 1, you will ask the mother if she took any drugs to prevent malaria while she was pregnant with (NAME). If she answers YES, you will record the drugs that she took in Question 2. Note that the response codes are letters instead of numbers, reminding you that you should circle all drugs that are mentioned.

SUB-MODULE B, Q.2: WHO SLEPT UNDER A BEDNET LAST NIGHT

The mother may report more than one person who slept under a bednet the previous night. Record all individuals mentioned. Whether or not the child (NAME) is mentioned will determine whether to proceed with the remaining bednet questions or end the module. As long as the mother mentions the child, regardless of whether she reports other family members, you are instructed to proceed to the next question (Q.3). If the mother mentions other individuals but does not mention the child, do not ask the remaining questions in the module.

SUB-MODULE B, Q.3: HOW LONG AGO WAS THE BEDNET BOUGHT OR OBTAINED?

SUB-MODULE B, Q.5: HOW LONG AGO WAS THE BEDNET LAST SOAKED OR DIPPED?

SUB-MODULE B, Q.6: HAVE YOU OR SOMEONE ELSE IN YOUR HOUSE EVER WASHED THE BEDNET? (RECORD NUMBER OF TIMES)

For all three of these questions, there is no precoded list of responses. For each question, write the mother's response in the two boxes provided. If her answer has fewer digits than the number of boxes, fill in the left box with a "0" then record her answer in the second box. For example, if the mother reports that the bednet was bought "7" months ago, you should record "07" in the two boxes provided.

SKIP PATTERNS FOR MALARIA MODULE

It is very important that you ask the mother only those questions that are relevant to her child's situation. For example, a mother whose child did not have a fever in the last two weeks should not be asked questions about treatment received for fever. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. The following list summarizes all skip patterns within the Malaria Module.

Question	Response	Instructions
Q.1. "Has (NAME) been ill with fever in the last two weeks?"	yes (1) no (2); don't know (8)	Go to Q.2 SKIP TO Q.15
Q.3. "Did you seek advice or treatment for (NAME'S) fever?"	yes (1) no (2); don't know (8)	Go to Q.4 SKIP to Q.15
Q.7. "Did you go anywhere else for advice or treatment for (NAME'S) fever?"	yes (1) no (2); don't know (8)	Go to Q.8 SKIP to Q.10
Q.10. HEALTH-FACILITY CARE OR NO HEALTH-FACILITY CARE?	yes no	Go to Q.11 SKIP to Q.12
Q.11. "Was (NAME) treated with any medicines before going to the health facility?"	yes (1) no (2); don't know (8)	SKIP to Q.13 SKIP to Q.15
Q.12. "Was (NAME) treated with any medicines?"	yes (1) no (2); don't know (8)	GO to Q.13 SKIP to Q.15
SUB-MODULE A Q.1. "When you were pregnant with (NAME), did you take any drugs to prevent you from getting malaria?"	yes (1) no (2)	Go to Q.2 END SUB-MODULE A
SUB-MODULE B Q.1. "Do you have any bednets in your house?"	yes (1) no (2); don't know	Go to Q.2 END SUB-MODULE B
Q.2. "Who slept under a bednet last night?"	If (NAME) mentioned If (NAME) not mentioned	Go to Q.3 END SUB-MODULE B
Q.4. "Was the bednet ever soaked or dipped in a liquid to repel mosquitoes or bugs?"	yes (1) no (2); don't know (8)	Go to Q.5 SKIP TO Q.6

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than a structured questionnaire. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C What do you know about malaria?
- C How do people in your community get a fever (malaria)?
- C How can you tell if a person has malaria?
- C What do people in your community do to avoid getting malaria?
- C What do people in your community do when a child has a fever?

The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to malaria. As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena (e.g., observed care-seeking patterns for childhood illnesses) that were identified but not sufficiently explained by the KPC.

IDENTIFICATION

CLUSTER NUMBER

HOUSEHOLD NUMBER

RECORD NUMBER

AGE OF CHILD (IN MONTHS)

SEX OF CHILD (1=MALE, 2=FEMALE)

MALARIA CASE MANAGEMENT

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Has (NAME) been ill with fever in the last two weeks?	YES 1 NO 2 DON'T KNOW 8	<15
2	Does (NAME) have a fever now?	YES 1 NO 2 DON'T KNOW 8	
3	Did you seek advice or treatment for (NAME'S) fever?	YES 1 NO 2	<15
4	Where did you first go for advice or treatment? ¹ IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. _____ - (NAME OF PLACE)	HEALTH FACILITY HOSPITAL 01 HEALTH CENTER 02 HEALTH POST 03 PVO CENTER 04 CLINIC 05 FIELD/COMMUNITY HEALTH WORKER 06 OTHER HEALTH FACILITY _____ 07 (SPECIFY) OTHER SOURCE TRADITIONAL PRACTITIONER 08 SHOP 09 PHARMACY 10 COMMUNITY DISTRIBUTORS 11 FRIEND/RELATIVE 12 OTHER _____ 88 (SPECIFY)	
5	How long after you noticed (NAME'S) fever did you seek treatment from that person/place?	SAME DAY 0 NEXT DAY 1 TWO DAYS 2 THREE OR MORE DAYS 3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
6	Who decided that you should go there for (NAME'S) illness? RECORD ALL MENTIONED.	RESPONDENT A HUSBAND/PARTNER B RESPONDENT'S MOTHER C MOTHER-IN-LAW D FRIENDS/NEIGHBORS E OTHER X (SPECIFY)	
7	Did you go anywhere else for advice or treatment for (NAME'S) fever?	YES 1 NO 2	<10
8	Where did you go next for advice or treatment? ¹ IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HEALTH FACILITY HOSPITAL 01 HEALTH CENTER 02 HEALTH POST 03 PVO CENTER 04 CLINIC 05 FIELD/COMMUNITY HEALTH WORKER 06 OTHER HEALTH FACILITY 07 (SPECIFY) OTHER SOURCE TRADITIONAL PRACTITIONER 08 SHOP 09 PHARMACY 10 COMMUNITY DISTRIBUTORS 11 FRIEND/RELATIVE 12 OTHER 88 (SPECIFY)	
9	How long after you noticed (NAME'S) fever did you seek treatment from that person/place?	SAME DAY 0 NEXT DAY 1 TWO DAYS 2 THREE OR MORE DAYS 3	
10	<p>LOOK AT THE RESPONSES TO QUESTIONS 4 AND 8 TO SEE IF A HEALTH FACILITY (ANY OF RESPONSES 01 THROUGH 07) WAS CIRCLED FOR EITHER QUESTION. IF (NAME) WENT TO A HEALTH FACILITY, CHECK THE FIRST BOX AND GO TO QUESTION 11. IF NOT, CHECK THE SECOND BOX AND GO TO QUESTION 12.</p> <p>TAKEN TO A HEALTH FACILITY?</p> <p>YES <input type="checkbox"/> < GO TO Q.11</p> <p>NO <input type="checkbox"/> < SKIP TO Q.12</p>		
11	Was (NAME) treated with any medicine(s) before going to the health facility?	YES 1 NO 2 DON'T KNOW 8	<13 <15
12	Was (NAME) treated with any medicine(s)?	YES 1 NO 2 DON'T KNOW 8	 <15

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
13	<p>Which medicines were given to (NAME) for his/her fever?¹ CIRCLE ALL MEDICINES THAT WERE GIVEN.</p> <p>IF MOTHER IS UNABLE TO RECALL DRUG NAME(S), ASK HER TO SHOW THE DRUG(S) TO YOU. IF SHE IS UNABLE TO SHOW YOU THEM, SHOW HER TYPICAL ANTI-MALARIALS AND HAVE HER IDENTIFY WHICH WERE GIVEN.</p> <p>FOR EACH ANTI-MALARIAL MEDICINE ASK: How long after the fever started did (NAME) start taking the medicine?</p> <p>CIRCLE THE APPROPRIATE CODE.</p> <p><u>CODES:</u> SAME DAY = 0 NEXT DAY AFTER THE FEVER = 1 TWO DAYS AFTER THE FEVER = 2 THREE OR MORE DAYS AFTER THE FEVER = 3 DON'T KNOW=8</p>	<p>ANTI-MALARIAL DRUGS</p> <p>A. CHLOROQUINE 0 1 2 3 8</p> <p>B. FANSIDAR 0 1 2 3 8</p> <p>C. AMODIAQUINE 0 1 2 3 8</p> <p>D. QUININE 0 1 2 3 8</p> <p>OTHER DRUGS</p> <p>E. ASPIRIN</p> <p>F. PANADOL</p> <p>G. CO-TRIMOXAZOLE</p> <p>X. OTHER _____ (SPECIFY)</p> <p>Z. UNKNOWN DRUG</p>	
14	Were any of these injections?	<p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p>	
15	<p>What causes malaria? RECORD ALL MENTIONED.</p> <p>Anything else?</p> <p>RECORD ALL MENTIONED.</p>	<p>MOSQUITO BITES A</p> <p>WITCHCRAFT B</p> <p>INTRAVENOUS DRUG USE C</p> <p>BLOOD TRANSFUSIONS D</p> <p>INJECTIONS E</p> <p>SHARING RAZORS/BLADES F</p> <p>KISSING G</p> <p>OTHER _____ W (SPECIFY)</p> <p>OTHER _____ X (SPECIFY)</p> <p>DON'T KNOW Z</p>	

¹ PVOs can modify response categories as necessary. However, the broad categories must be maintained.

SUB-MODULE A: MALARIA PROPHYLAXIS DURING PREGNANCY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	When you were pregnant with (NAME), did you take any drugs to prevent you from getting malaria?	<p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p>	<END
2	<p>Which drug did you take?¹</p> <p>RECORD ALL MENTIONED.</p>	<p>FANSIDAR A</p> <p>CHLOROQUINE B</p> <p>OTHER _____ X (SPECIFY)</p> <p>UNKNOWN DRUG Z</p>	

¹ Develop list of responses locally and revise based upon the pretest.

SUB-MODULE B: MOSQUITO BEDNET USE AND MAINTENANCE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Do you have any bednets in your house?	YES 1 NO 2 DON'T KNOW 8	<END
2	Who slept under a bednet last night? RECORD ALL MENTIONED.	CHILD (NAME) A MYSELF B HUSBAND/PARTNER C OTHER _____ X (SPECIFY)	<END
3	How long ago was the bednet bought or obtained?	MONTHS DON'T KNOW 98	
4	Was the bednet ever soaked or dipped in a liquid to repel mosquitoes or bugs?	YES 1 NO 2 DON'T KNOW 8	<6
5	How long ago was the bednet last soaked or dipped? RECORD ANSWER IN MONTHS (LESS THAN 1 MONTH = 00)	MONTHS DON'T KNOW 98	
6	Have you or someone else in your house ever washed the bednet? IF NO, RECORD 00 IF YES, RECORD NUMBER OF TIMES	NUMBER OF TIMES DON'T KNOW 98	
7	ASK TO SEE THE BEDNET AND INSPECT IT FOR HOLES OR TEARS. NO HOLES/TEARS= GOOD CONDITION. VISIBLE HOLES AND/OR TEARS=DAMAGED.	GOOD CONDITION 1 DAMAGED 2	

TABULATION PLAN

This module is designed for areas where malaria prevalence is relatively high and/or where malaria control activities are being implemented. Maternal report of fever is used as a proxy for malaria; however, it is not recommended that Q.1 be used to derive a prevalence estimate of childhood malaria. The information gleaned from this module can, however, provide some insight into case management behavior.

When the questions on chemoprophylaxis during pregnancy and bednet use/maintenance are included in the survey, one may obtain a basic assessment of malaria prevention within the target population. As seen below, a minimum list of indicators is presented in this tabulation plan. The malaria prophylaxis and bednet indicators can be calculated only if the questions in the sub-modules are asked during the interview.

TABLE 4E-1: MALARIA INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>Malaria Case Management</i>	<p>Percentage of children aged 0-23 months with a febrile episode that ended during the last two weeks who were treated with an effective anti-malarial drug within 48 hours after the fever began</p> $\frac{\text{No. of children with 0 or 1 circled for any drug in A through D of Q.13}}{\text{No. of children with response=2 for Q.2}} \times 100$
<i>Health Facility Care-seeking for Fever</i>	<p>Percentage of children aged 0-23 months with a febrile episode that ended during the last two weeks who were brought to a health facility within 48 hours after the fever began</p> $\frac{\text{No. of children with (response=01 through 07 for Q.4 and response=0 or 1 for Q.5) OR (response=01 through 07 for Q.8 and response=0 or 1 for Q.9)}}{\text{No. of children with response=2 for Q.2}} \times 100$
<i>Malaria Prophylaxis During Pregnancy</i>	<p>Percentage of mothers who took anti-malarial medicine to prevent malaria during pregnancy</p> $\frac{\text{No. of mothers with response=1 for Q.1, sub-module A}}{\text{Total no. of mothers with children aged 0-23 months}} \times 100$
<i>Household Bednet Possession</i>	<p>Percentage of children whose mothers report the presence of bednets in the house</p> $\frac{\text{No. of children aged 0-23 months with response=1 for Q.1, sub-module B}}{\text{Total no. of children aged 0-23 months}} \times 100$
<i>Child Bednet Use</i>	<p>Percentage of children aged 0-23 months who slept under an insecticide-treated bednet the previous night</p> $\frac{\text{No. of children with response A for Q.2, sub-module B AND response=1 for Q.4, sub-module B}}{\text{Total no. of children aged 0-23 months}} \times 100$

Given its relatively small sample size, data from the KPC may be tabulated either manually or by computer. Below is an example of a manual (hand) tabulation table for Q.3. For each child, a check mark (T) would be placed in the row of the category that matches his/her mother's response. The frequency column indicates the number of children with a particular response (i.e., total number of check marks in a specific row), whereas the percent column is the number of children with that response divided by the

total number of children for whom the question was asked.

TABLE 4E-2: EXAMPLE OF HAND TABULATION TABLE FOR Q.3
("Did you seek advice or treatment for (NAME's) fever?")

CODE	CATEGORY	CHECK MARKS (T)	FREQUENCY	PERCENT
1	yes			
2	no			
8	don't know			
TOTAL NUMBER OF RESPONSES FOR Q.3				100.0
OVERALL FINDING BASED ON THIS TABULATION:				

In order to cross tabulate a particular question with child's age, place questionnaires in different piles or folders according to the child's age group. Separate tabulation tables can then be calculated for each age group. This process can be performed for a number of socio-demographic and behavioral variables. Table 4E-3 illustrates how the data can be organized in a table to assess the relationship between fever in the last two weeks (Q.1) and who slept under a bednet during the previous night (sub-module B, Q.2).

TABLE 4E-3: CROSS TABULATION TABLE FOR FEVER IN THE LAST TWO WEEKS
AND WHO SLEPT UNDER A BEDNET DURING THE PREVIOUS NIGHT

PERSON WHO SLEPT UNDER A BEDNET THE PREVIOUS NIGHT (Q.2, SUB-MODULE B)	FEVER IN LAST TWO WEEKS (Q.1)		
	yes	no	don't know
child (NAME)			
myself (respondent)			
husband/partner			
other			
TOTAL			
OVERALL FINDING BASED UPON THIS CROSS TABULATION:			

In the above table, it is likely that the total number of responses will exceed the total number of children in the sample. This is due to the fact that the mother may mention multiple people in Q.2. Since the rationale for asking Q.2 is to determine if the child in question (NAME) slept under a bednet, the data could be reorganized as follows:

TABLE 4E-4: CROSS TABULATION TABLE FOR FEVER IN THE LAST TWO WEEKS
AND WHETHER THE CHILD SLEPT UNDER A BEDNET DURING THE PREVIOUS NIGHT

(NAME) SLEPT UNDER A BEDNET THE PREVIOUS NIGHT?	FEVER IN LAST TWO WEEKS			TOTAL
	yes	no	don't know	
yes				
no				
TOTAL				

(NAME) SLEPT UNDER A BEDNET THE PREVIOUS NIGHT?	FEVER IN LAST TWO WEEKS			TOTAL
	yes	no	don't know	
OVERALL FINDING BASED UPON THIS CROSS TABULATION:				

If the mother mentioned that (NAME) slept under a bednet--even if she mentioned other family members who also slept under bednets--the child would be classified as YES for the variable in the first column. If the child was not mentioned by the mother, s/he would be classified as NO. By reorganizing responses to Q.2 in this manner, the number of check marks in the table should equal the number of children within the sample.

=====

REFERENCES FOR MALARIA-RELATED SURVEYS

Listed below are other surveys that may be of assistance when modifying the KPC to meet the needs of your particular project.

- (1) CARE (1999). *Rapid Impact Evaluation Survey* (Malaria Survey).
- (2) ORC Macro (2000). *MEASURE DHS+ Model A Questionnaire for High Contraceptive Prevalence Countries* (Qs. 466-474).
- (3) UNICEF (1995). *Multiple Indicator Cluster Survey* (Malaria Module).

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 5A: PRENATAL CARE**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

Module 5A consists of 13 questions on prenatal care and knowledge of danger signs during pregnancy. Question 4 is highlighted to indicate that it also appears in the KPC2000 *Rapid CATCH*. There is also a brief sub-module on maternal nutrition supplementation during pregnancy. Projects interested in malaria prophylaxis during pregnancy should consult the Malaria Module (Module 4E).

ASKING QUESTIONS AND RECORDING ANSWERS

In Questions 5A and 5B, you will record the number of prenatal visits and tetanus toxoid injections, respectively, as documented on the respondent's maternal health card. The remaining questions in this module are based upon maternal recall. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

Most questions in this module have precoded responses. It is important that you do not read these choices aloud to the mother. When you ask a question, you should listen to the mother's answer, then circle the code next to the category that best matches her answer. For some questions, an OTHER code is included in the list of precoded responses. If the mother provides an answer that does not fit into any of the precoded categories, circle the OTHER code and write the answer in the blank space provided.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age and sex in the second set of boxes.

Qs.1 and 2: PRENATAL CHECK-UP

Question 1 refers to any prenatal care while the mother was pregnant with (NAME). The check-up should have been specifically related to her pregnancy, and not for other reasons. Prenatal care is usually given at a health care facility but is sometimes provided in the pregnant woman's home. This is a two-part question because if the mother answers YES, you must ask whom she saw. Ask the mother if she saw more than one person for prenatal care and record all persons mentioned.

Notice that the codes here are letters of the alphabet rather than numbers; letter codes are used to remind you to circle all responses which apply. If the mother did not see anyone for a check on her pregnancy, only circle Z for NO ONE.

For Question 2, you will ask the mother about the total number of prenatal visits while she was pregnant with (NAME).

Q.3: RECEIVED HEALTH AND CHILD SPACING INFORMATION AT CHECK

The prenatal check is an ideal time to educate mothers on birth planning, as well as breastfeeding and other health issues. This question assesses whether providers are taking advantage of the opportunity to counsel mothers at the prenatal check. For each topic listed in Question 3, circle YES or NO based upon the mother's answers.

Q.4: TT INJECTIONS

Question 4 collects information on TT injections while pregnant with (NAME). Neonatal tetanus is a disease that kills many babies. Another name for tetanus is lockjaw. If a local term exists for tetanus, it may be used in explaining the disease to the mother. Tetanus is easily prevented by a woman receiving an immunization against tetanus while she is pregnant with the baby; the immunity against tetanus is transferred to the baby before birth. This immunization is usually given to the pregnant woman as an injection in the arm or the shoulder. This question also appears in the *Rapid CATCH*.

Q.5: POSSESSION OF A MATERNAL HEALTH CARD

For Question 5, you will ask the mother if she has a maternal health card. Remember to specify that you are referring to the card for her pregnancy with (NAME). If she answers YES then ask to see the card. In some cases the mother may not be willing to take time to look for her maternal health card, thinking that you are in a hurry. Encourage her to look for the card and be patient if she needs to search for it.

If the mother shows you her card, circle 1 [YES, SEEN]. If the mother says that she has a card but cannot find it or it is not in the house, circle 2 [NOT AVAILABLE]. Circle 3 [NEVER HAD A CARD] if the mother never possessed a maternal health card.

Qs. 5A and 5B: NUMBER OF PRENATAL VISITS AND TETANUS TOXOID (TT) INJECTIONS

For each of these questions, you will look at the mother's card and record the necessary information. Be sure to record the number of prenatal visits and the number of TT injections received while the mother was pregnant with (NAME).

Qs. 6, 7, and 8: ACCESSIBILITY OF NEAREST HEALTH FACILITY

Accessibility of health facilities is important in determining whether respondents can take advantage of health care or not. In Questions 6, 7, and 8, please record the reported distance to the nearest health facility (indicate whether in miles or kilometers), the mode of transportation to the health facility, and the time it takes to travel to the facility.

Q.9: HOUSEHOLD DECISIONMAKER

Question 9 determines who the decisionmaker is in the household regarding the use of health care. If there is more than one person, record all mentioned.

Q.10: RECOGNITION OF DANGER SIGNS DURING PREGNANCY

Maternal recognition of danger signs is important in ensuring that a woman gets timely treatment for conditions that may threaten her life and the life of her unborn baby. In Question 10, you will ask the mother to list signs of danger during pregnancy that indicate the need for health care. The mother may report more than one sign. Once again, letters codes are used to remind you to circle all signs that the mother mentions.

Q.11: PLACES WHERE CARE WOULD BE FIRST SOUGHT FOR DANGER SIGNS

If the mother reports at least one danger sign, Question 11 asks where she would go to seek care for the condition(s) she just mentioned. Circle the code that best matches her response.

SUB-MODULE, Qs.1-2: IRON TABLETS

Anemia is a common problem during pregnancy. This problem is easily overcome by additional intake of iron and folic acid. Usually, a pregnant woman is given a supply of iron and folic acid tablets or syrup during prenatal check-ups. Question 1 of the sub-module on nutrition supplements asks whether the mother was given iron tablets or syrup during her pregnancy. If the woman says she was given iron tablets for free OR she was given iron tablets but was asked to pay for them, circle 1 for YES. If the woman is not aware of such tablet or syrup, probe by showing the sample tablets, and record the appropriate response. Note that you are not asking whether or not she consumed the pills/syrup she was given. This information is collected in Question 2.

You will ask Question 2 if the mother was given or was asked to purchase iron and folic acid tablets/syrup (YES to Q.1). Ask the mother for how many days during her pregnancy she took the tablets/syrup. If she does not remember, ask her to estimate. Probe for the approximate number of days (1 month=30 days). Record the response in the boxes. Remember to put zeroes in front of numbers less than 100. For example, if the mother reported 30 days, then you would record '030' in the boxes provided.

SKIP PATTERNS FOR PRENATAL CARE MODULE

It is very important that you ask the mother only those questions that are relevant to her situation. For example, if the mother does not know any danger signs during pregnancy that require care, you should not ask where she would go for care if she had those symptoms. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. The following list summarizes all skip patterns within the Prenatal Care Module.

Question	Response	Instructions
Q.1 "Did you see anyone for prenatal care while you were pregnant with (NAME)?"	NO ONE (Z) ALL OTHER RESPONSES	SKIP TO Q.6 Go to Q.2
Q.5 "Do you have a maternal health card?"	yes, seen (1) not available (2); never had a card (3)	Go to Q.5A SKIP to Q.6
Q.10 "What are the signs of danger during pregnancy indicating the need to seek health care? "	don't know (Z) ALL OTHER RESPONSES	END MODULE Go to Q.11

**IRON
SUPPL**

Q.1: "When you were pregnant with (NAME),
did you receive or buy any iron tablets or
iron syrup?"

yes (1)
no (2); don't know (8)

Go to Q.2
END MODULE

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C What is the importance of prenatal care?
- C What factors affect whether or not a women receives prenatal care?
- C Who decides whether a woman receives prenatal care?
- C Where do pregnant women in this community seek advice on pregnancy?
- C What are normal signs or symptoms during pregnancy?
- C Why are pregnant women vaccinated against tetanus?

The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to prenatal care. As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena that were identified but not sufficiently explained by the KPC.

IDENTIFICATION

CLUSTER NUMBER

HOUSEHOLD NUMBER

RECORD NUMBER









AGE OF CHILD (IN MONTHS)

CHILD'S DATE OF BIRTH / / (dd/mm/yy)

SEX OF CHILD (1=MALE, 2=FEMALE)

PRENATAL CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	<p>Did you see anyone for prenatal care while you were pregnant with (NAME)?¹</p> <p>IF YES: Whom did you see? Anyone else?</p> <p>PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS MENTIONED BY THE MOTHER.</p>	<p>HEALTH PROFESSIONAL</p> <p>DOCTOR A</p> <p>NURSE/MIDWIFE B</p> <p>AUXILIARY MIDWIFE C</p> <p>OTHER PERSON</p> <p>TRADITIONAL BIRTH ATTENDANT D</p> <p>COMMUNITY HEALTH WORKER E</p> <p>OTHER..... X (SPECIFY)</p> <p>NO ONE Z</p>	<6
2	How many times did you see someone for care during the pregnancy?	NUMBER OF TIMES	
3	<p>During your prenatal check, were you counseled on the following:</p> <p>Delivery preparations?</p> <p>Breastfeeding?</p> <p>Child spacing?</p> <p>EPI?</p> <p>Danger signs of pregnancy?</p>	<p>YES NO</p> <p>Delivery preparations 1 2</p> <p>Breastfeeding 1 2</p> <p>Child spacing 1 2</p> <p>EPI 1 2</p> <p>Danger signs of pregnancy 1 2</p>	
4	Before you gave birth to (NAME), did you receive an injection in the arm ² to prevent the baby from getting tetanus, that is convulsions after birth?	<p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p>	
5	Do you have a maternal health card for your pregnancy with (NAME)?	<p>YES, SEEN 1</p> <p>NOT AVAILABLE 2</p> <p>NEVER HAD A CARD 3</p>	<6

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
5A	LOOK AT CARD AND RECORD THE NUMBER OF PRENATAL VISITS WHILE MOTHER WAS PREGNANT WITH (NAME).	NUMBER OF VISITS 	
5B	LOOK AT THE CARD AND RECORD THE DATES FOR EACH TT INJECTION LISTED ON THE CARD	<div>DAY MONTH YEAR</div> <div>FIRST </div> <div>SECOND </div> <div>THIRD </div> <div>FOURTH </div> <div>FIFTH </div> <div>SIXTH </div>	
6	How far are you from the nearest health facility? ¹	DISTANCE 	
7	How would you get there? ² RECORD ALL RESPONSES.	WALK A CAR B MOTORCYCLE C OX CART D CANOE E OTHER _____ X (SPECIFY)	
8	How long would it take you to get there?	LESS THAN 1 HOUR 1 1 TO 3 HOURS 2 GREATER THAN 3 HOURS 3 DON'T KNOW 8	
9	Who would decide that you should go there? RECORD ALL MENTIONED.	RESPONDENT A HUSBAND/PARTNER B RESPONDENT'S MOTHER C MOTHER-IN-LAW D FRIENDS/NEIGHBORS E OTHER _____ X (SPECIFY)	
10	What are the symptoms during pregnancy indicating the need to seek health care? RECORD ALL MENTIONED.	FEVER A SHORTNESS OF BREATH B BLEEDING C SWELLING OF THE BODY/HANDS/FACE D OTHER _____ X (SPECIFY) DON'T KNOW Z	<END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
11	Where is the first place you would you go for care if you had these symptoms? ¹	<p>HEALTH FACILITY</p> <p>HOSPITAL 01</p> <p>HEALTH CENTER 02</p> <p>HEALTH POST 03</p> <p>PVO CENTER 04</p> <p>CLINIC 05</p> <p>FIELD/COMMUNITY HEALTH WORKER 06</p> <p>OTHER HEALTH FACILITY..... 07</p> <p>(SPECIFY)</p> <p>OTHER SOURCE</p> <p>TRADITIONAL PRACTITIONER 08</p> <p>SHOP 09</p> <p>PHARMACY 10</p> <p>COMMUNITY DISTRIBUTORS 11</p> <p>FRIEND/RELATIVE 12</p> <p>OTHER..... 88</p> <p>(SPECIFY)</p>	

¹ Projects should specify whether distance should be recorded in kilometers or miles.

² PVOs are encouraged to modify response categories.

SUB-MODULE ON IRON SUPPLEMENTATION DURING PREGNANCY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	When you were pregnant with (NAME), did you receive or buy any iron tablets or iron syrup? ¹ SHOW TABLET/SYRUP. ¹	YES 1 NO 2 DON'T KNOW 8	<END
2	How many days did you take the tablets or syrup? ^{1,2} IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER OF DAYS.	NUMBER OF DAYS DON'T KNOW 998	

¹ Syrup should be deleted in project areas where syrup is not used.

² In project areas where it is important to know the number of iron tablets taken per day, an appropriate question may be added.

NOTE: SEE MALARIA MODULE (4E) FOR QUESTIONS ON MALARIA PROPHYLAXIS DURING PREGNANCY

TABULATION PLAN

Module 5A yields information on prenatal care, knowledge of danger signs during pregnancy, and iron supplementation. Table 5A-1 presents a list of key indicators that can be derived from this module. PVOs should select those indicators which are of relevance to their specific project activities. Additional indicators (e.g., percent of mothers who received prenatal care from PVO-trained birth attendants) may also be necessary. PVOs are reminded that questions and response categories may need to be modified in order to obtain those additional indicators. Indicators may also need to be modified to comply with standards dictated by national policy (e.g., the percent of mothers having at least "x" prenatal visits; percent of mothers with at least one prenatal visit in the first trimester).

TABLE 5A-1: PRENATAL CARE INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>Maternal Health Card Possession</i>	Percent of mothers with a maternal card (interviewer-confirmed) for the youngest child less than 24 months of age $\frac{\text{No. mothers with response= 1 for Q.5}}{\text{Total no. of mothers with children less than 24 months of age}} \times 100$
<i>Tetanus Toxoid Coverage</i>	Percent of mothers who received at least two tetanus toxoid injections (card-confirmed) before the birth of the youngest child less than 24 months of age $\frac{\text{No. of mothers with at least 2 recorded dates before (NAME'S) date of birth (Q.5B)}}{\text{Total no. of mothers with children less than 24 months of age}} \times 100$
<i>Prenatal Care Coverage</i>	Percent of mothers who had at least one prenatal visit prior to the birth of her youngest child less than 24 months of age $\frac{\text{No. of mothers with response } \geq 1 \text{ for Q.2}}{\text{Total no. of mothers with children less than 24 months of age}} \times 100$
<i>Iron Supplementation : Coverage</i>	Percent of mothers who received/bought iron supplements while pregnant with the youngest child less than 24 months of age $\frac{\text{No. of mothers with response=1 for sub-module Q.1}}{\text{Total no. of mothers with children less than 24 months of age}} \times 100$

Given its relatively small sample size, data from the KPC may be tabulated either manually or by computer. Tables 5A-2 and 5A-3 are examples of manual (hand) tabulation tables for Q.1. For each mother, a check mark (T) would be placed in the row of the category that matches her response. The frequency column indicates the number of mothers with a particular response (i.e., total number of check marks in a specific row), whereas the percent column is the number of mothers with that response divided by the total number of mothers.

TABLE 5A-2: EXAMPLE OF HAND TABULATION TABLE FOR Q.1
 ("Did you see anyone for prenatal care while you were pregnant with (NAME)?" "Whom did you see?")

CATEGORY		CHECK MARKS (T)	FREQUENCY	PERCENT
A	DOCTOR			
B	NURSE/MIDWIFE			
C	AUXILIARY MIDWIFE			
D	TRADITIONAL BIRTH ATTENDANT			
E	COMMUNITY HEALTH WORKER			
X	OTHER			
Z	NO ONE			
TOTAL NUMBER OF MOTHERS WITH RESPONSES TO Q.1				100.0
OVERALL FINDING BASED ON THIS TABULATION:				

In order to identify women who received prenatal care versus those who did not, categories A through X can be collapsed into a YES category, and category Z can be recoded as NO (see Table 5A-3).

TABLE 5A-3: MOTHERS WHO RECEIVED PRENATAL CARE

DID THE MOTHER RECEIVE PRENATAL CARE WHILE PREGNANT WITH HER YOUNGEST CHILD LESS THAN 24 MONTHS?	CHECK MARKS (T)	FREQUENCY	PERCENT
yes			
no			
TOTAL NUMBER OF MOTHERS WITH RESPONSES TO Q.1			100.0
OVERALL FINDING BASED ON THIS TABULATION:			

REFERENCES FOR SURVEYS WITH PRENATAL CARE INFORMATION

Listed below are other surveys with questions, sections or modules on prenatal care that may be of assistance when modifying the KPC to meet the needs of your particular project.

- (1) CARE (1999). *Rapid Impact Evaluation Survey* (Qs. 13-15, 18-20).
- (2) Christian Children's Fund-Angola (1999). *KPC Questionnaire* (Qs. PC06-PC07; PC11-PC19).
- (3) ORC Macro (2000). *MEASURE DHS+ Model A Questionnaire for High Contraceptive Prevalence Countries* (Qs.401-422).
- (4) Project Hope (1999). Kasungu Child Survival and Mother Care Programme Baseline Survey, Questionnaire for women of reproductive age (Qs. 17-19).
- (5) UNICEF (1995). *Multiple Indicator Cluster Survey* (Tetanus Toxoid and Maternal and Newborn Health modules).

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 5B: DELIVERY AND IMMEDIATE NEWBORN CARE**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

Module 5B consists of two questions, one of which (Question 2) also appears in the KPC2000 *Rapid CATCH*. There is also one sub-module on delivery practices.

ASKING QUESTIONS AND RECORDING ANSWERS

All questions in this module are based upon maternal recall. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

Most questions have precoded responses. It is important that you do not read these choices aloud to the mother. When you ask a question, you should listen to the mother's answer, then circle the code next to the category that best matches her answer. For some questions, an OTHER code is included in the list of precoded responses. If the mother provides an answer that does not fit into any of the precoded categories, circle the OTHER code and write the answer in the blank space provided.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age and sex in the second set of boxes.

Q.1: PLACE OF DELIVERY

Question 1 identifies births delivered in a health facility. When asking the question, be sure to insert the name of the child to whom you are referring, so that there is no confusion with the respondent's other children. If the mother gave birth in a health facility, ask her for the name of the place and record this information in the blank space provided.

Q.2: ASSISTANCE AT DELIVERY

If the mother is not sure of the status of the person who attended (NAME'S) delivery, for example, if she doesn't know whether the person was a midwife or a traditional birth attendant, probe. It is important to find out who assisted with the delivery itself, not who helped in other ways such as boiling water or wrapping the baby in a blanket. Notice that the codes for this question are letters of the alphabet to remind you to circle codes for all the people who the mother mentions. This question also appears in the *Rapid CATCH*.

SUB-MODULE, Qs. 1, 2, 3 and 4: AVAILABILITY OF CLEAN BIRTH KITS/CORD CARE

Question 1 is a filter question about the availability of clean birth kits. Your supervisor will know whether or not clean birth kits are available in the project area. If clean birth kits are available, ask the mother Question 2 to determine whether or not a kit was used when she delivered (NAME). The instrument used to cut the umbilical cord may affect the risk of infection in the baby. In Question 3, you will ask what instrument was used to cut (NAME'S) umbilical cord. Record who cut the cord in Question 4.

SUB-MODULE, Qs.5 and 6: IMMEDIATE NEWBORN CARE

The way in which a baby is cared for during the period immediately after birth is critical to his/her survival. Ideally, the baby should be placed with the mother to maintain body warmth and initiate breastfeeding. In Questions 5 and 6, ask the mother where (NAME) was placed immediately after birth and what was done with the baby.

SKIP PATTERNS FOR DELIVERY AND IMMEDIATE NEWBORN CARE MODULE

It is very important that you ask the mother only those questions that are relevant to her situation. For example, if clean birth kits are not available in the project area, you should not ask the mother if one was used when she delivered (NAME). For certain questions,

you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. The following list summarizes all skip patterns within the Delivery and Newborn Care Module.

	Question	Response	Instructions
SUB-MODULE	Q.1 "CLEAN BIRTH KITS AVAILABLE/ NOT AVAILABLE IN THE PROJECT AREA	available not available	Go to Q.2 SKIP to Q.3
	Q.2. "Was a clean birth kit used?"	yes (1) no (2); don't know (8)	SKIP to Q.4 Go to Q.3

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C What factors affect where a woman gives birth?
- C Who decides where a woman gives birth?
- C When is a decision made about where a woman will give birth?
- C If a woman experiences complications during the delivery, what is usually done?
- C In this community, who usually cuts and ties the umbilical cord?
- C In this community, what kind of emergency transport plan exists for delivery complications?

The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to delivery and newborn care. As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena that were identified but not sufficiently explained by the KPC.

IDENTIFICATION	
CLUSTER NUMBER	
HOUSEHOLD NUMBER	
RECORD NUMBER	

AGE OF CHILD (IN MONTHS)	
SEX OF CHILD (1=MALE, 2=FEMALE)	

PLACE OF DELIVERY AND DELIVERY ATTENDANTS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	<p>Where did you give birth? ¹</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE.</p> <p>_____</p> <p>(NAME OF PLACE)</p>	<p>HOME</p> <p>YOUR HOME 11</p> <p>OTHER HOME 12</p> <p>HEALTH FACILITY</p> <p>HOSPITAL 21</p> <p>CLINIC 22</p> <p>HEALTH CENTER 23</p> <p>PVO CENTER 24</p> <p>HEALTH POST 25</p> <p>OTHER HEALTH FACILITY 26</p> <p>(SPECIFY)</p> <p>OTHER 96</p> <p>(SPECIFY)</p>	
2	<p>Who assisted you with (NAME'S) delivery? ¹</p> <p>RECORD ALL MENTIONED.</p>	<p>HEALTH PROFESSIONAL</p> <p>DOCTOR A</p> <p>NURSE/MIDWIFE B</p> <p>AUXILIARY MIDWIFE C</p> <p>OTHER PERSON</p> <p>TRADITIONAL BIRTH ATTENDANT D</p> <p>COMMUNITY HEALTH WORKER E</p> <p>FAMILY MEMBER F</p> <p>(SPECIFY)</p> <p>OTHER G</p> <p>(SPECIFY)</p> <p>NO ONE Y</p>	

¹ PVOs are encouraged to modify response categories as necessary; however, the broad categories should be maintained.

SUB-MODULE ON DELIVERY PRACTICES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	CLEAN BIRTH KITS AVAILABLE IN THE PROJECT AREA ? CLEAN BIRTH KITS NOT AVAILABLE IN THE PROJECT AREA		<3
2	Was a clean birth kit used?	YES 1 NO 2 DON'T KNOW 8	<4
3	What instrument was used to cut the cord?	NEW RAZOR BLADE 1 OTHER INSTRUMENT 2	
4	Who cut the cord?	HEALTH PROFESSIONAL DOCTOR 1 NURSE/MIDWIFE 2 AUXILIARY MIDWIFE 3 OTHER PERSON TRADITIONAL BIRTH ATTENDANT 4 COMMUNITY HEALTH WORKER 5 FAMILY MEMBER 6 (SPECIFY) OTHER 7 (SPECIFY) NO ONE 8	
5	Where was (NAME) put immediately after birth?	WITH MOTHER 1 IN COT 2 ON FLOOR 3 BATHED 4 OTHER 6 (SPECIFY) DON'T KNOW 8	
6	What did you do with (NAME) immediately after birth? ^{1,2}	BREASTFED 1 BATHED 2 LET SLEEP 3 OTHER 6 (SPECIFY) DON'T KNOW 8	

¹ PVOs are encouraged to modify response categories as necessary; however, the broad categories should be maintained.

² Question 3 in Module 2 (Breastfeeding and Infant/Child Nutrition) also inquires about immediate breastfeeding.

NOTE: The information gleaned from this module is not sufficient for the purposes of designing a maternal health intervention. More participatory methods of information gathering are needed.

TABULATION PLAN

This module yields information on delivery practices and immediate newborn care. Table 5B-1 presents a list of key indicators that can be derived from this module. PVOs should select those indicators which are of relevance to their specific project activities. Additional indicators (e.g., percent of children who were delivered by PVO-trained birth attendants) may also need to be devised. Also, PVOs may have to modify some indicators to reflect national policies.

TABLE 5B-1: DELIVERY CARE INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>Delivery by Skilled Health Personnel</i>	<p>Percent of children aged 0-23 months whose delivery was attended by a skilled health personnel</p> <p>No. of children with response= A, B, or C for Q.2</p> <p>_____ x 100</p> <p>Total no. of children aged 0-23 months</p>
<i>Clean Cord Care</i>	<p>Percent of children aged 0-23 months whose delivery involved use of a clean birth kit or whose cord was cut with a new razor</p> <p>No. of children with response= 1 for Q.2 or Q.3 of sub-module</p> <p>_____ x 100</p> <p>Total no. of children aged 0-23 months</p>
<i>Immediate Breastfeeding</i>	<p>Percent of children aged 0-23 months who were immediately breastfed at birth</p> <p>No. of children with response= 1 for Q.6, sub-module</p> <p>_____ x 100</p> <p>Total no. of children aged 0-23 months</p>
<i>Placement at Birth</i>	<p>Percent of children aged 0-23 months who were placed with the mother immediately after birth</p> <p>No. of children with response= 1 for Q.5, sub-module</p> <p>_____ x 100</p> <p>Total no. of children aged 0-23 months</p>

Given its relatively small sample size, data from the KPC may be tabulated either manually or by computer. Table 5B-2 is an example of a manual (hand) tabulation table for Q.2, which identifies children whose delivery was attended by skilled health personnel.

For each child, a check mark (T) would be placed in the row of the category that matches his/her mother's response. The frequency column indicates the number of children whose delivery was attended by a particular provider (i.e., total number of check marks in a specific row), whereas the percent column is the number of children with that response divided by the total number of children.

TABLE 5B-2: EXAMPLE OF HAND TABULATION TABLE FOR Q.2
(*"Who assisted you with the delivery?"*)

CATEGORY		CHECK MARKS (T)	FREQUENCY	PERCENT
A	DOCTOR			
B	NURSE/MIDWIFE			
C	AUXILIARY MIDWIFE			
D	TRADITIONAL BIRTH ATTENDANT			
E	COMMUNITY HEALTH WORKER			
F	FAMILY MEMBER			
G	OTHER			
Y	NO ONE			
TOTAL NUMBER OF CHILDREN WITH RESPONSES TO Q.2				100.0
OVERALL FINDING BASED ON THIS TABULATION:				

For easier tabulation of the indicator on trained delivery assistance, the data for Q.2 may be re-organized into two categories: a) skilled delivery assistance and b) unskilled delivery assistance. In doing so, the indicator on skilled delivery attendant (see Table 5B-1) is simply the percent that appears in the last column of the first row ("yes") in Table 5B-3.

TABLE 5B-3: SKILLED DELIVERY ATTENDANCE

WAS (NAME) DELIVERED BY SKILLED HEALTH PERSONNEL?	CHECK MARKS (T)	FREQUENCY	PERCENT
yes			
no			
TOTAL NUMBER OF RESPONSES TO Q.2			100.0
OVERALL FINDING BASED ON THIS TABULATION:			

=====

REFERENCES FOR SURVEYS WITH DELIVERY CARE INFORMATION

Listed below are other surveys with questions, sections or modules on delivery care that may be of assistance when modifying the KPC to meet the needs of your particular project.

- (1) CARE (1999). *Rapid Impact Evaluation Survey* (Qs. 16-17).
- (2) ORC Macro (2000) *MEASURE DHS+ Model A Questionnaire for High Contraceptive Prevalence Countries* (Qs.423-428).
- (3) Project Hope (1999). Kasungu Child Survival and Mother Care Programme Baseline Survey, Questionnaire for women of reproductive age (Qs. 20-21).
- (4) UNICEF (1995). *Multiple Indicator Cluster Survey* (Maternal and Newborn Health modules, Qs. 5-8).

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 5C: POSTPARTUM CARE**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

Module 5C consists of seven questions on postpartum contact with health providers. There are also two sub-modules on knowledge of danger signs and the content of postpartum care.

ASKING QUESTIONS AND RECORDING ANSWERS

All questions in this module are based upon maternal recall. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

Most questions have precoded responses. It is important that you do not read these choices aloud to the mother. When you ask a question, you should listen to the mother's answer, then circle the code next to the category that best matches her answer. For some questions, an OTHER code is included in the list of precoded responses. If the mother provides an answer that does not fit into any of the precoded categories, circle the OTHER code and write the answer in the blank space provided.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age and sex in the second set of boxes.

Qs.1,2, 3, 5, and 6: POSTPARTUM CHECK

It is important that the health of both the mother and the baby is assessed during the first few weeks after delivery. In Question 1, you will circle 1 if the mother reports that someone checked on her health. If (NAME) was born in a health facility and the mother received a postpartum check-up in the health facility before being released, this would also be considered a postpartum check-up. This question only asks about a health check-up for the mother. In Question 2, you will record how long after delivery the first postpartum check took place. If the mother's answer is in days, circle 1 and fill in the number of days in the boxes provided. If she answers in weeks, circle 2 and fill in the number of weeks. Remember to put a zero in the first box if the mother gives a number less than 10.

You will probe for the person(s) who checked on the mother's health in Questions 3 and 6. If the mother mentions more than one person, circle the code for the highest person on the list who checked on her health. For example, if the mother reports that she was checked on by a nurse/midwife and a traditional birth attendant, you would circle 2 (nurse/midwife), since that person is the most qualified of the individuals mentioned.

Qs. 4 and 7: CHECK ON BABY'S HEALTH

A postpartum check-up is as important for the baby as it is for the mother. Questions 4 and 7 ask the mother if the person who checked on her health also checked on (NAME's) health.

SUB-MODULE A, Q.1: RECOGNITION OF POSTPARTUM DANGER SIGNS

Should complications arise during the postpartum period, it is important that the mother is knowledgeable about danger signs that indicate the need for care. Notice that the codes for Question 1 are letters of the alphabet, reminding you that you should record all symptoms mentioned by the mother.

SUB-MODULE A, Q.2: NEONATAL DANGER SIGNS

Like maternal symptoms, recognition of danger signs in the infant is critical to newborn survival. Once again, response codes are letters, not numbers, therefore record all signs mentioned by the mother.

SUB-MODULE B, Q.1: RECEIVED HEALTH AND CHILD SPACING INFORMATION AT CHECK

The postpartum check is an ideal time to educate mothers on child spacing, as well as immunization and infant/child health. This question assesses whether providers are taking advantage of the opportunity to counsel mothers at the postpartum check. For each topic listed in Question 1, circle YES or NO based upon the mothers answers.

SUB-MODULE B, Q.2: VITAMIN A SUPPLEMENTATION

Breastfeeding protects infants against vitamin A deficiency, a leading cause of night blindness in children. A single postpartum dose of vitamin A given to women within eight weeks of delivery increases the vitamin A content of breastmilk. Question 2 assesses whether mothers are receiving this supplement or not.

Show the Vitamin A ampule, capsule, or syrup and ask the mother if she was given Vitamin A within two months after delivery.

SKIP PATTERNS FOR POSTPARTUM CARE MODULE

It is very important that you ask the mother only those questions that are relevant to her situation. For example, if a mother reports that no one checked on her health during the postpartum period, you should not ask her about the number of days after delivery that the check took place. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. There are two skip patterns within the Postpartum Care Module.

Question	Response	Instructions
Q.1 "After (NAME) was born, did anyone check on your health?"	yes (1) no (2)	Go to Q.2 END MODULE
Q.5 "Did you have any other postpartum checks?"	yes (1) no (2)	Go to Q.6 END MODULE

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C In this community, what special practices exist for mothers and their babies during the first few weeks after birth?
- C What kinds of problems can arise in a mother and her baby during the first few weeks after delivery?
- C What is usually done when these problems occur?
- C What is the importance of postpartum check-ups?
- C What factors influence whether a mother and her newborn receive postpartum care?

The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to care during the postpartum period. As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena that were identified but not sufficiently explained by the KPC.

IDENTIFICATION

CLUSTER NUMBER

HOUSEHOLD NUMBER

RECORD NUMBER

1111
1111
1111
1111
1111

AGE OF CHILD (IN MONTHS)

SEX OF CHILD (1=MALE, 2=FEMALE)

1111
1111
1111
1111
1111

POSTPARTUM CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	After (NAME) was born, did anyone check on your health?	YES 1 NO 2	<END
2	How many days or weeks after the delivery did the first check take place? RECORD '00' DAYS IF SAME DAY.	DAYS AFTER DEL 1 WEEKS AFTER DEL 2 DON'T KNOW 998	
3	Who checked on your health at that time? ¹ PROBE FOR MOST QUALIFIED PERSON.	HEALTH PROFESSIONAL DOCTOR 1 NURSE/MIDWIFE 2 AUXILIARY MIDWIFE 3 OTHER PERSON TRADITIONAL BIRTH ATTENDANT 4 OTHER 5 (SPECIFY)	
4	At that time, did the person check on (NAME)'s health as well?	YES 1 NO 2	
5	Did you have any other postpartum checks?	YES 1 NO 2	<END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
6	Who checked on your health the second time? ¹ PROBE FOR MOST QUALIFIED PERSON.	HEALTH PROFESSIONAL DOCTOR 1 NURSE/MIDWIFE 2 AUXILIARY MIDWIFE 3 OTHER PERSON PVO-TRAINED BIRTH ATTENDANT 4 OTHER BIRTH ATTENDANT 5 OTHER _____ 6 (SPECIFY)	
7	At that time, did the person check on (NAME)'s health as well?	YES 1 NO 2	

¹ PVOs are encouraged to modify response categories as necessary.

SUB-MODULE A: KNOWLEDGE OF DANGER SIGNS DURING THE POSTPARTUM PERIOD

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	<p>What are the signs of danger after giving birth indicating the need for you to seek health care? ¹</p> <p>RECORD ALL MENTIONED.</p>	<p>FEVER A</p> <p>EXCESSIVE BLEEDING B</p> <p>SMELLY VAGINAL DISCHARGE C</p> <p>OTHER _____ X (SPECIFY)</p> <p>DON'T KNOW Z</p>	
2	<p>What are the signs to watch for that may indicate that a newborn baby is ill? ¹</p> <p>RECORD ALL MENTIONED.</p>	<p>POOR FEEDING A</p> <p>FAST BREATHING B</p> <p>NOT ACTIVE C</p> <p>REDNESS AROUND THE CORD D</p> <p>RED/DISCHARGING EYE E</p> <p>OTHER _____ X (SPECIFY)</p> <p>DON'T KNOW Z</p>	

¹ PVOs are encouraged to modify response categories as necessary.

SUB-MODULE B: CONTENT OF POSTPARTUM CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	<p>During your postpartum check, were you counseled on the following:</p> <p>Child spacing?</p> <p>Infant nutrition?</p> <p>Child immunizations?</p> <p>Infant diarrhea?</p> <p>Early signs of pneumonia?</p>	<p>YES NO</p> <p>child spacing 1 2</p> <p>infant nutrition 1 2</p> <p>child immunization 1 2</p> <p>danger signs of infant illness 1 2</p>	
2	<p>In the first two months after delivery, did you receive a vitamin A dose like this? ¹</p> <p>SHOW AMPULE/CAPSULE/SYRUP.</p>	<p>YES 1</p> <p>NO 2</p>	

¹ Questions on vitamin A appear in Module 2 (Breastfeeding and Infant/Child Nutrition) and Module 4A (Child Immunization), although they are child-focused rather than mother-focused questions.

TABULATION PLAN

Module 5C yields information on the critical period after delivery. Table 5C-1 presents a list of key indicators that can be derived from this module. PVOs should select those indicators which are of relevance to their specific project activities. Additional indicators may also need to be devised, and PVOs should consider national policies when modifying indicators.

TABLE 5C-1: DELIVERY CARE INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>Postpartum Contact</i>	Percent of mothers who had at least one postpartum check-up $\frac{\text{No. of mothers with response= 1 for Q.1}}{100} \times 100$ Total no. of mothers with children less than 24 months
<i>Knowledge of Maternal Danger Signs</i>	Percent of mothers able to report at least two known maternal danger signs during the postpartum period $\frac{\text{No. of mothers with at least two responses= A through C for sub-module A, Q.1}}{\text{Total no. of mothers with children less than 24 months}} \times 100$
<i>Knowledge of Neonatal Danger Signs</i>	Percent of mothers able to report at least two known neonatal danger signs $\frac{\text{No. of mothers with at least two responses= A through E for sub-module A, Q.2}}{\text{Total no. of mothers with children less than 24 months}} \times 100$
<i>Maternal Vitamin A Supplementation</i>	Percent of mothers who received a Vitamin A dose during the first two months after delivery $\frac{\text{No. of mothers with response= 1 for sub-module B, Q.2}}{\text{Total no. of mothers with children less than 24 months}} \times 100$

The KPC may be tabulated either manually or by computer. Table 5C-2 is an example of a manual (hand) tabulation table for Q.1 of the module. This question identifies women who had contact with a health provider during the postpartum period.

For each mother, a check mark (T) would be placed in the row of the category that matches her response. The frequency column indicates the number of mothers who had a postpartum check (i.e., total number of check marks in a specific row), whereas the percent column is the number of mothers with that response divided by the total number of mothers.

TABLE 5C-2: EXAMPLE OF HAND TABULATION TABLE FOR Q.1
("After (NAME) was born, did anyone check on your health?")

DID ANYONE CHECK ON THE MOTHER'S HEALTH AFTER THE DELIVERY?	CHECK MARKS (T)	FREQUENCY	PERCENT
yes			
no			
TOTAL NUMBER OF MOTHERS WITH RESPONSES TO Q.1			100.0
OVERALL FINDING BASED ON THIS TABULATION:			

ADDITIONAL REFERENCE FOR QUESTIONS ON THE POSTPARTUM PERIOD

ORC Macro (2000). *MEASURE DHS+ Model B Questionnaire for High Contraceptive Prevalence Countries* (Qs.429-433).

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 6: CHILD SPACING**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

Module 6 consists of seven questions on child spacing knowledge and practices, including three questions that are highlighted to indicate that they also appears in the KPC2000 *Rapid CATCH*. There is also one optional question on the provision of child spacing/family planning information during the postpartum period.

ASKING QUESTIONS AND RECORDING ANSWERS

The information that you will record in this module is based solely upon answers provided by the mother. It is very important that you ask each question exactly as it is written on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother.

Most questions in this module have precoded responses. It is important that you do not read these choices aloud to the mother. When you ask a question, you should listen to the mother's answer, then circle the code next to the category that best matches her answer. For some questions, an OTHER code is included in the list of precoded responses. If the mother provides an answer that does not fit into any of the precoded categories, circle the OTHER code and write the answer in the blank space provided.

FILLING IN IDENTIFICATION INFORMATION

Before you begin to ask the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey. In addition, record the child's age and sex in the second set of boxes.

Q.1a and b: NUMBER OF CHILDREN UNDER THE AGE OF FIVE

The number of children under age five gives an indication of child spacing and the competition for resources among children within the household. In part a, record the total number of children living in the household who are under age five. In part b, record how many of those children are the respondent's biological children. These questions also appear in the *Rapid CATCH*.

Q.2: SEXES AND DATES OF BIRTH OF TWO YOUNGEST SURVIVING CHILDREN

Record the sex and date of birth of (NAME) and his/her youngest sibling. Date of birth information can be used to calculate the birth interval between the two youngest surviving children of the respondent.

Q.3: KNOWLEDGE OF PLACE TO OBTAIN METHODS OF CHILD SPACING/FAMILY PLANNING

In Question 3, you will ask the mother if she knows of a place where she could obtain a method of child spacing/family planning. If she answers YES, ask "Where is that?" If she states more than one source of child spacing/family planning, record all mentioned. For this question, letter codes are used to remind you that more than one answer is possible. If one of the sources mentioned is a hospital, health center, or clinic, write the name of the place in the space provided in the first column.

Q.4: CURRENTLY PREGNANT

Question 4 identifies mothers who are currently pregnant at the time of the interview. If the mother does not know for certain whether or not she is pregnant, circle 8 [UNSURE].

Q.5 and 6: DESIRE FOR ANOTHER CHILD AND WHEN

You will only ask Questions 5 and 6 if the mother is not currently pregnant or is unsure whether or not she is pregnant.

Q.7: CURRENT USE OF A CHILD SPACING METHOD

Since methods are effective for different lengths of time, you may have some difficulty deciding if a particular mother is currently

using a method. Coitus (intercourse)-related methods such as condoms, barrier methods, and withdrawal are used with each act of intercourse, so current users of these methods will have used them during the most recent acts of intercourse. Current users of the pill should be taking pills daily. Other methods provide ongoing protection without daily or regular action by the woman. For example, contraceptive injections may have been administered 2-6 months earlier and still provide protection, while Norplant provides protection for up to 5 years, or until removed. An IUD, once inserted, protects against pregnancy until it is removed or expelled. If the woman is sterilized, you will record TUBAL LIGATION as the current method. Or, if the woman's current partner has been sterilized, you will record VASECTOMY as the current method. If however, she is no longer married to (or living with) a former partner who had a vasectomy, this should not be noted as the current method.

SUB-MODULE A: PROVISION OF CHILD SPACING INFORMATION DURING POSTPARTUM PERIOD

For this optional question, you will first ask the mother if anyone checked on her health after giving birth to (NAME). If she answers YES, then you will ask her if she received any child spacing information during the check-up. Circle the appropriate response, based upon her answer.

SKIP PATTERNS FOR CHILD SPACING MODULE

It is very important that you ask the mother only those questions that are relevant to her situation. For example, if the mother is currently pregnant, it does not make sense to ask her if she is currently using a method to avoid getting pregnant. For certain questions, you are instructed to skip to the next appropriate question if the mother gives a particular response. Skip instructions are located in the far right-hand column of the questionnaire. The following list summarizes all skip patterns within the Child Spacing Module.

Question	Response	Instructions
Q.1a. "...How many children living in this household are under the age of five?"	one child (1) two children (2); three or more (3)	SKIP to Q.3 Go to Q.1b
Q.1b. "...How many of those children are your biological children?"	one child (1) two children (2); three or more (3)	SKIP to Q.3 Go to Q.2
Q.4. "Are you currently pregnant?"	yes (1) no (2); unsure (8)	END MODULE Go to Q.5
Q.5 "Do you want another child?"	yes (1) no (2); don't know (8)	END MODULE Go to Q.7

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. It is suggested that answers to the following questions be obtained from key informants or focus group discussions:

- C If a woman wants to delay or avoid having children, what can she do to prevent getting pregnant?
- C What are some of the advantages of child spacing?
- C What are some of the disadvantages of child spacing?
- C In a relationship between a man and a woman, who decides whether or not to use child spacing?
- C Who decides which method(s) of child spacing to use?
- C What are some reasons why women do not use child spacing?
- C Where do people in this community get information about child spacing?
- C How comfortable are you about talking to your husband/partner about child spacing?

The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to child spacing/family planning. As a formative research technique, findings from focus group discussions could be used to modify the questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC study, there may be additional areas that need to be explored. Thus, qualitative methods can be employed once again to provide explanations for phenomena that were identified but not sufficiently explained by the KPC.

IDENTIFICATION	
CLUSTER NUMBER	1111
HOUSEHOLD NUMBER	111
RECORD NUMBER	111

AGE OF CHILD (IN MONTHS)	111
SEX OF CHILD (1=MALE, 2=FEMALE)	11

CHILD SPACING

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP
1a	How many children living in this household are under five years of age?	ONE CHILD 1 TWO CHILDREN 2 THREE OR MORE CHILDREN 3		<3
1b	How many of those children are your biological children?	ONE CHILD 1 TWO CHILDREN 2 THREE OR MORE CHILDREN 3		<3
2	What is the sex and date of birth of your two youngest children?	<p>CHILD #1</p> <p>SEX</p> <p>MALE 1</p> <p>FEMALE 2</p> <p>DATE OF BIRTH</p> <p>DAY 111</p> <p>MONTH 111</p> <p>YEAR 111</p>	<p>CHILD #2</p> <p>SEX</p> <p>MALE 1</p> <p>FEMALE 2</p> <p>DATE OF BIRTH</p> <p>DAY 111</p> <p>MONTH 111</p> <p>YEAR 111</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
3	<p>Now I would like to ask you about child spacing/family planning services in your community.</p> <p>Do you know of a place where you could obtain a method of child spacing/family planning?</p> <p>IF NO, CIRCLE "Z" [DON'T KNOW] IF YES, ASK "Where is that?" ¹</p> <p>RECORD ALL MENTIONED.</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE.</p> <p>_____</p> <p>(NAME OF PLACE)</p>	<p>HEALTH FACILITY</p> <p>HOSPITAL A</p> <p>HEALTH CENTER B</p> <p>PVO CENTER C</p> <p>HEALTH POST D</p> <p>FAMILY PLANNING CLINIC E</p> <p>FIELD/COMMUNITY HEALTH WORKER F</p> <p>PHARMACY G</p> <p>OTHER HEALTH FACILITY H</p> <p>(SPECIFY)</p> <p>OTHER SOURCE</p> <p>SHOP I</p> <p>CHURCH J</p> <p>FRIEND/RELATIVE K</p> <p>OTHER X</p> <p>(SPECIFY)</p> <p>DON'T KNOW Z</p>	
4	Are you currently pregnant?	<p>YES 1</p> <p>NO 2</p> <p>UNSURE 8</p>	<END
5	Do you want to have another child?	<p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p>	<7
6	When do you want to have your next child?	<p>WITHIN 2 YEARS 1</p> <p>MORE THAN 2 YEARS FROM NOW 2</p> <p>UNSURE WHEN 8</p>	
7	<p>Are you currently doing something or using any method to delay or avoid getting pregnant?</p> <p>IF NO, CIRCLE '01' [NO METHOD]</p> <p>IF YES, ASK "What is the main method you or your husband/partner are using now to avoid/postpone getting pregnant?"</p> <p>CIRCLE THE APPROPRIATE RESPONSE.</p>	<p>NO METHOD 01</p> <p>NORPLANT 02</p> <p>INJECTIONS 03</p> <p>PILL 04</p> <p>IUD 05</p> <p>BARRIER METHOD/DIAPHRAGM 06</p> <p>CONDOM 07</p> <p>FOAM/GEL 08</p> <p>TUBAL LIGATION 09</p> <p>VASECTOMY 10</p> <p>LACTATIONAL AMENORRHEA (EXCLUSIVE BREASTFEEDING) .. 11</p> <p>RHYTHM 12</p> <p>ABSTINENCE 13</p> <p>WITHDRAWAL 14</p> <p>OTHER 96</p> <p>(SPECIFY)</p>	

¹ PVOs are encouraged to modify response categories as necessary; however, the broad categories should be maintained.

SUB-MODULE: POSTPARTUM INFORMATION ON CHILD SPACING

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	<p>After (NAME) was born, did anyone check on your health?</p> <p>IF YES, THEN ASK: Were you given information about child spacing during this check?¹</p> <p>CIRCLE THE APPROPRIATE RESPONSE.</p>	<p>NO POSTPARTUM CHECK-UP 1</p> <p>CHECK-UP, BUT NO INFORMATION ... 2</p> <p>RECEIVED INFORMATION 3</p>	

¹ Module 5C (Postpartum Care) also contains a question about information on child spacing, as well as other topics received during a postpartum check-up.

TABULATION PLAN

Module 6 yields information on knowledge and practices related to child spacing. Table 6-1 presents a list of key indicators that can be derived from this module.

TABLE 6-1: CHILD SPACING INDICATORS

INDICATOR	DESCRIPTION/DEFINITION
<i>Contraceptive Use Among Mothers Who Want to Limit or Space Births</i>	<p>Percent of nonpregnant mothers who desire no more children in the next two years, or are not sure, who are using a modern method of child spacing</p> <p>No. of mothers with (response=2 or 8 for Q.5 or Q.6) AND (response= 2 through 10 for Q.7)</p> <p style="text-align: right;">x 100</p> <p>Total no. of mothers with responses=2 or 8 for Q.5 or Q.6</p>
<i>Knowledge of Sources of Child Spacing Methods</i>	<p>Percent of mothers who report at least one place where she can obtain a method of child spacing</p> <p>No. of mothers with responses= A through X for Q.3</p> <p style="text-align: right;">x 100</p> <p>Total no. of mothers with responses to Q.3</p> <p>*REMINDER: Since each mother may give multiple answers to Q.3, PVOs are reminded to count the number of respondents, not responses.</p>
<i>Adequate Birth Interval Between Youngest Surviving Children</i>	<p>Percent of children aged 0-23 months who were born at least 24 months after the previous surviving child</p> <p>No. of children aged 0-23 months whose date of birth is at least 24 months after the birth of the previous surviving child</p> <p style="text-align: right;">x 100</p> <p>Total no. of children aged 0-23 months</p>
<i>Adequate Birth Interval Between Youngest Surviving Children (Less Stringent Criteria)</i>	<p>Percent of children aged 0-23 months who were born at least 36 months after the previous surviving child</p> <p>No. of children aged 0-23 months whose date of birth is at least 36 months after the birth of the previous surviving child</p> <p style="text-align: right;">x 100</p> <p>Total no. of children aged 0-23 months</p>
<i>Provision of Child Spacing Information During a Postpartum Check-up</i>	<p>Percent of mothers who received child spacing information during a postpartum check-up</p> <p>No. of mothers with response= 3 for Q.1, sub-module</p> <p style="text-align: right;">x 100</p> <p>Total no. of mothers with responses to Q.1, sub-module</p>

Given its relatively small sample size, data from the KPC may be tabulated either manually or by computer. Table 6-2 is an example of a manual (hand) tabulation table for Q.7, which documents child spacing methods used.

For each mother, a check mark (T) would be placed in the row of the category that matches her response. The frequency column indicates the number of mothers with a particular response (i.e., total number of check marks in a specific row), whereas the percent column is the number of mothers with that response divided by the total number of mothers.

It is also possible to re-organize the data to make it easier to calculating indicators. For Q.7, this is achieved by re-classifying the women in Table 6-2 into one of two categories: a) currently using modern child spacing method and b) nonuser/currently using traditional method of child spacing (see Table 6-3). In doing so, the contraceptive use indicator is simply the percent that appears in the last column of the first row ("yes") in Table 6-3.

TABLE 6-2: EXAMPLE OF HAND TABULATION TABLE FOR Q.7

CATEGORY		CHECK MARKS (T)	FREQUENCY	PERCENT
01	NO METHOD			
02	NORPLANT			
03	INJECTIONS			
04	PILL			
05	IUD			
06	BARRIER METHOD/DIAPHRAGM			
07	CONDOM			
08	FOAM/GEL			
09	TUBAL LIGATION			
10	VASECTOMY			
11	LACTATIONAL AMENORRHEA (EXCLUSIVE BREASTFEEDING)			
12	RHYTHM			
13	ABSTINENCE			
14	WITHDRAWAL			
96	OTHER			
TOTAL NUMBER OF MOTHERS WITH RESPONSES TO Q.7				100.0
OVERALL FINDING BASED ON THIS TABULATION:				

TABLE 6-3: MOTHERS WHO DESIRE NO MORE CHILDREN IN THE NEXT TWO YEARS, OR ARE NOT SURE,
WHO ARE USING A MODERN METHOD OF CHILD SPACING

IS (NAME'S) MOTHER CURRENTLY USING A MODERN METHOD OF CHILD SPACING?	CHECK MARKS (T)	FREQUENCY	PERCENT
yes			
no			
TOTAL NUMBER OF MOTHERS WITH RESPONSES TO Q.6			100.0
OVERALL FINDING BASED ON THIS TABULATION:			

Note, however, that the above table does not give you the first indicator listed in Table 6-1. In order to obtain that indicator, you will need to limit Table 6-3 to who do not want or are unsure about wanting another child (response=2 or 8 for Question 5) and women who want a child more than two years from now (response=2 or 8 for Question 6).

REFERENCES FOR SURVEYS WITH CHILD SPACING INFORMATION

Listed below are other surveys with questions, sections or modules on child spacing/family planning that may be of assistance when modifying the KPC to meet the needs of your particular project.

- (1) CARE (1999). *Rapid Impact Evaluation Survey* (Qs. 9-12).
- (2) Christian Children's Fund-Angola (1999). *KPC Questionnaire* (Qs. PE01-PE08).
- (3) ORC Macro (2000). *MEASURE DHS+ Model A Questionnaire for High Contraceptive Prevalence Countries* (Qs.301-329; 524-529).
- (4) Project Hope (1999). Kasungu Child Survival and Mother Care Programme Baseline Survey, Questionnaire for women of reproductive age (Qs. 22-34).
- (5) UNICEF (1995). *Multiple Indicator Cluster Survey* (Contraceptive Use Module).

Rapid Knowledge, Practices and Coverage (KPC) Survey

MODULE 7: HIV/AIDS AND OTHER SEXUALLY TRANSMITTED INFECTIONS

Since the release of the December 1999 version of the KPC, CSTS and the CORE M&E Working Group have consulted other instruments that contain questions on HIV-related issues. In addition, a few PVOs experimented with HIV/STI questions during the *KPC₂₀₀₀* field-testing earlier this year. These questions extended far beyond what was covered in the December 1999 module, which was limited primarily to knowledge of risk factors. The present version includes a broad selection of questions ranging from prevention of HIV/STI infection to identification of orphans and foster children within the target community. This module is currently on the CSTS website (www.childsurvival.com) for review and comment by the PVO community. Individuals with feedback or suggestions may submit them via the HIV Discussion Forum on the website.

To assist PVOs in selecting questions for their surveys, this module groups questions into the following categories:

1. Knowledge of HIV/AIDS Risk Factors and Modes of Transmission
2. Risk and Risk Reduction
3. Sexually Transmitted Infections
4. HIV Screening
5. Stigma
6. Sources of Care and Support
7. Identifying Orphans and Foster/Adoptive Children

Please note that skip patterns are not presented in this module, since this will depend on the content and order of the questions selected by each PVO. As with the December 1999 HIV Module, questions can be asked of both men and women of reproductive age. In adapting this module, PVOs should keep in mind that inclusion of certain questions might require minor modifications to the sampling design.

There are two questions in the *Rapid CATCH* that relate to knowledge of ways to reduce the risk of HIV infection. They are highlighted below.

• **Knowledge of HIV/AIDS Risk Factors and Modes of Transmission**

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1.	<p>I have a few more questions that I would like to ask you. Some of them ask about personal and sensitive subjects, so I want to remind you that you do not have to answer any question that you do not want to.</p> <p>Have you ever heard of an illness called AIDS (or the local term for AIDS)?</p>	<p>YES.....1</p> <p>NO2</p>	
2.	<p>Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?</p>	<p>YES.....1</p> <p>NO2</p> <p>DON'T KNOW8</p>	
3.	<p>What can a person do?</p> <p>Anything else?</p> <p>RECORD ALL MENTIONED.</p>	<p>ABSTAIN FROM SEX A</p> <p>USE CONDOMS B</p> <p>LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER..... C</p> <p>LIMIT NUMBER OF SEXUAL PARTNERS..... D</p> <p>AVOID SEX WITH PROSTITUTES E</p> <p>AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS F</p> <p>AVOID INTERCOURSE WITH PERSONS OF THE SAME SEX..... G</p> <p>AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENOUSLY H</p> <p>AVOID BLOOD TRANSFUSIONS I</p> <p>AVOID INJECTIONS J</p> <p>AVOID KISSING..... K</p> <p>AVOID MOSQUITO BITES..... L</p> <p>SEEK PROTECTION FROM TRADITIONAL HEALER M</p> <p>AVOID SHARING RAZORS, BLADES . N</p> <p>OTHER _____ W</p> <p style="text-align: center;">(SPECIFY)</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		OTHER _____ . X (SPECIFY) DON'T KNOW Z	
4.	Can the virus that causes AIDS be transmitted from a mother to a child? During pregnancy? During delivery? During breastfeeding?	YES NO DK DURING PREGNANCY..... 1 2 8 DURING DELIVERY..... 1 2 8 DURING BREASTFEEDING..... 1 2 8	
5.	If a mother is infected with the AIDS virus, is there any way to avoid transmission to the baby?	YES.....1 NO2 DON'T KNOW8	
6.	Can a person who has AIDS be cured?	YES.....1 NO2 DON'T KNOW8	

• Risk and Risk Reduction

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
7.	When was the last time you had sexual intercourse? WRITE THE NUMBER AND CIRCLE THE APPROPRIATE UNITS (DAYS, WEEKS, MONTHS, OR YEARS) RECORD 'YEARS AGO' ONLY IF LAST INTERCOURSE WAS ONE OR MORE YEARS AGO	DAYS AGO1 WEEKS AGO2 MONTHS AGO.....3 YEARS AGO.....4 NEVER HAD SEX 9	
8.	The last time you had sexual intercourse, did you use a condom? ¹	YES.....1 NO2	
9.	What was the main reason you used a condom on that occasion?	TO PREVENT STDs/HIV 1 TO PREVENT PREGNANCY 2 TO PREVENT BOTH STDs/HIV AND PREGNANCY 3 DOESN'T TRUST PARTNER/ PARTNER HAS OTHER PARTNERS ... 4 PARTNER INSISTED.....5 OTHER _____ 6 (SPECIFY) DON'T KNOW 8 REFUSED TO ANSWER..... 9	

¹ Female condom questions should be added as appropriate.

10.	What is your relationship to the man with whom you last had sex?	HUSBAND/BOYFRIEND1 OTHER FRIEND3 CASUAL ACQUAINTANCE4 RELATIVE.....6 OTHER _____ 96 (SPECIFY)	
11.	For how long have you had a sexual relationship with this man? WRITE THE NUMBER AND CIRCLE THE APPROPRIATE UNITS (DAYS, WEEKS, MONTHS, OR YEARS) RECORD 'YEARS AGO' ONLY IF LAST INTERCOURSE WAS ONE OR MORE YEARS AGO	DAYS1 WEEKS2 MONTHS.....3 YEARS.....4	
12.	Are you currently living with your partner?	YES.....1 NO2 DON'T KNOW8	
13.	Do you think your partner has other sexual partners?	YES.....1 NO2 DON'T KNOW8	
14.	Have you had sex with anyone else in the last 12 months?	YES.....1 NO2	
15.	The last time you had sexual intercourse with this other man, did you use a condom? ¹	YES.....1 NO2	
16.	Do you know of a place where one can get condoms?	YES.....1 NO2	
17.	Where is that? ² IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL11 GOVT. HEALTH CENTER.....12 FAMILY PLANNING CLINIC13 MOBILE CLINIC14 FIELD WORKER15 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC21 PHARMACY22 PRIVATE DOCTOR.....23 MOBILE CLINIC24 FIELD WORKER25 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER SOURCE SHOP31 CHURCH32 FRIENDS/RELATIVES33 OTHER _____ 96 (SPECIFY)	
18.	If you wanted to, could you yourself get a condom?	YES.....1 NO2 DON'T KNOW/UNSURE8	

² Coding categories to be developed locally and revised based on the pretest; however, the broad categories must be maintained.

• Sexually Transmitted Infections

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP															
19.	(Apart from AIDS), have you heard about (other) infections that can be transmitted through sexual contact?	YES..... 1 NO 2 DON'T KNOW 8																
20.	In a man, what signs and symptoms would lead you to think that he has such an infection? Any others? RECORD ALL MENTIONED.	ABDOMINAL PAIN..... A GENITAL DISCHARGE/DRIPPING..... B FOUL SMELLING DISCHARGE..... C BURNING PAIN ON URINATION..... D REDNESS/INFLAMMATION IN GENITAL AREA..... E SWELLING IN GENITAL AREA..... F GENITAL SORES/ULCERS G GENITAL WARTS H BLOOD IN URINE I LOSS OF WEIGHT J IMPOTENCE K NO SYMPTOMS L OTHER..... W (SPECIFY) OTHER..... X (SPECIFY) DON'T KNOW Z																
21.	In a woman, what signs and symptoms would lead you to think that she has such an infection? Any others? RECORD ALL MENTIONED.	ABDOMINAL PAIN..... A GENITAL DISCHARGE..... B FOUL SMELLING DISCHARGE..... C BURNING PAIN ON URINATION..... D REDNESS/INFLAMMATION IN GENITAL AREA E SWELLING IN GENITAL AREA..... F GENITAL SORES/ULCERS G GENITAL WARTS H BLOOD IN URINE I LOSS OF WEIGHT J INABILITY TO GIVE BIRTH K NO SYMPTOMS L OTHER..... W (SPECIFY) OTHER..... X (SPECIFY) DON'T KNOW Z																
22.	During the last 12 months, have you had a sexually transmitted infection?	YES..... 1 NO 2 DON'T KNOW 8 REFUSED TO ANSWER..... 9																
23.	The last time you had a sexually transmitted infection did you do any of the following? Did you.... Seek advice from a health worker in a clinic or hospital? Seek advice or medicine from a traditional healer? Seek advice or buy medicines in a shop or pharmacy? Ask for advice from friends or relatives?	<table border="0"> <thead> <tr> <th></th><th>YES</th><th>NO</th></tr> </thead> <tbody> <tr> <td>HEALTH WORKER.</td><td>1</td><td>2</td></tr> <tr> <td>TRADITIONAL HEALER.</td><td>1</td><td>2</td></tr> <tr> <td>SHOP/PHARMACY.</td><td>1</td><td>2</td></tr> <tr> <td>FRIENDS/ RELATIVES.</td><td>1</td><td>2</td></tr> </tbody> </table>		YES	NO	HEALTH WORKER.	1	2	TRADITIONAL HEALER.	1	2	SHOP/PHARMACY.	1	2	FRIENDS/ RELATIVES.	1	2	
	YES	NO																
HEALTH WORKER.	1	2																
TRADITIONAL HEALER.	1	2																
SHOP/PHARMACY.	1	2																
FRIENDS/ RELATIVES.	1	2																

• HIV Screening

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
24.	How can a person find out if he or she has HIV (the virus that causes AIDS)? CIRCLE ALL MENTIONED.	GO FOR TEST A GO TO HEALTH FACILITY B GO TO COUNSELLING/TESTING FACILITY C OTHER D (SPECIFY) DON'T KNOW E	
25.	Have you heard of an HIV/AIDS counseling and testing service?	YES 1 NO 2 DON'T KNOW 8	
26.	What do you think are the reasons to get an HIV/AIDS test? CIRCLE ALL MENTIONED.	MARRIAGE A FAMILY PLANNING B INSURANCE C PLAN FOR THE FUTURE D PROTECT PARTNER E PROTECT CHILD F IF I'M SICK G OTHER H (SPECIFY) DON'T KNOW X	
27.	What would be reasons <u>not</u> to get an HIV/AIDS test? CIRCLE ALL MENTIONED.	LOSE JOB A LOSE TERMINAL BENEFITS B LOSE PENSION C LOSE PARTNER D FEAR OF KNOWING E STIGMA F OTHER G (SPECIFY) DON'T KNOW X	
28.	If you wanted an HIV/AIDS test, where would you go? CIRCLE ALL MENTIONED.	HOSPITAL A HEALTH CLINIC B VCT CENTER C OTHER D (SPECIFY) DON'T KNOW X	
29.	Would you talk to your partner/spouse before having an HIV/AIDS test?	YES 1 NO 2 DON'T KNOW 8	
30.	Would you tell your partner/spouse the results of an HIV/AIDS test?	YES 1 NO 2 DON'T KNOW 8	
31.	Who should go for an HIV/AIDS test? CIRCLE ALL MENTIONED.	SEX WORKERS A USERS OF SEX WORKERS B TRUCK DRIVERS, SOLDIERS, TRAVELLING SALES PERSONS, ETC. C ANYONE AT-RISK D THOSE WITH MULTIPLE PARTNERS ... E ANYONE SEXUALLY ACTIVE F THOSE WHO ARE SICK G	

		THOSE GETTING MARRIED H OTHER I (SPECIFY) DON'T KNOW X	
32.	Have you ever been tested for HIV/AIDS?	YES.....1 NO2 DON'T KNOW8	
33.	Did you receive counseling before getting tested?	YES.....1 NO2 DON'T KNOW8	
34.	I don't need to know the actual results of your HIV/AIDS test, but did you receive the results?	YES.....1 NO2 DON'T KNOW8	
35.	Did you receive counseling after getting your results?	YES.....1 NO2 DON'T KNOW8	

• **Stigma**

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
36.	If a relative of yours became sick with the AIDS virus would you be willing to care for him or her in your own household?	YES.....1 NO2 DON'T KNOW8	
37.	If a teacher has the AIDS virus, but is not sick, should he or she be allowed to continue teaching in school?	YES.....1 NO2 DON'T KNOW8	
38.	Would you allow your child to play with a child who has the AIDS virus?	YES.....1 NO2 DON'T KNOW8	

• **Sources of Care and Support for the Chronically Ill (including persons living with HIV)**

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
39.	Think back over the past 12 months. Has anyone in your household, including yourself, been very sick or bedridden for a period of more than three months, or has anyone <u>died</u> after being sick for more than three months?	YES 1 NO 2 DK 98	
40.	How old was/were the people who were sick or who died? ENTER AGES FOR ALL WHO HAVE BEEN SICK OR WHO DIED AFTER A LONG ILLNESS	[]...1 []...2 []...3 []...4 []...5 []...6	
41.	Did your household receive any help or care from outside the household because of the sick person? By care, I mean medical care or counseling, money, childcare, food, transportation or some other kind of help.	YES 1 NO 2 DK 98	
42.	For the sick person, did your household receive help or care from:	<u>YES</u> <u>NO</u> <u>DK</u>	

	A. Anyone from a hospital or clinic?	1	2	8	
	B. A relative or friend?	1	2	8	
	C. A religious worker or religious organization?	1	2	8	
	D. Any other community group or organization or worker?	1	2	8	
	E. OTHER (specify) _____	1	2	8	
43.	I'm going to ask some questions about the <u>type</u> of care received by your household for the sick person in the last 12 months.				
		<u>YES</u>	<u>NO</u>	<u>D K</u>	
	Did anyone in the household or the sick person receive				
	A. Counseling about dealing with the illness and its effects?.....	1	2	8	
	B. Free medicines?	1	2	8	
	C. Food?	1	2	8	
	D. Government grants?	1	2	8	
	E. Money from friends, an organization, or relatives?	1	2	8	
	F. Child care?.....	1	2	8	
	G. Transportation?.....	1	2	8	
	H. Any other place or person (SPECIFY) _____	1	2	8	

44.	Did your household receive any help or care from outside the household because of the presence of an orphan in the household? By care, I mean medical care or counseling, money, childcare, food, transportation or some other kind of help.				YES 1 NO 2 DK 98
45.	For the orphan, did your household receive help or care from:	YES	NO	D K	
	A. anyone from a hospital or clinic?	1	2	8	
	B. a relative or friend?	1	2	8	
	C. a religious worker or religious organization?	1	2	8	
	D. any other community group or organization or worker?	1	2	8	
	E. any other place or person (SPECIFY) _____	1	2	8	
46.	I'm going to ask some questions about the <u>type</u> of care received by your household for the orphan in the last 12 months.	YES	NO	D K	
	Did anyone in the household or the orphan receive				

	A. Counseling about dealing with the loss of a parent and its effects?	1	2	8	
	B. Free medicines?	1	2	8	
	C. Food?	1	2	8	
	D. Government grants?	1	2	8	
	E. Money from friends or relatives?	1	2	8	
	F. Money from an organization?.....	1	2	8	
	G. Transportation?.....	1	2	8	
	H. Child care?.....	1	2	8	
	I. Other (specify) _____	1	2	8	

• Identifying Orphans and Foster Children

In some countries, children affected by HIV/AIDS constitute an increasing proportion of orphans and vulnerable children. One CS project, Medical Care Development International (MCDI)/South Africa, ascertained the magnitude of the orphan problem in its project area using household listings (see below for illustration). The enumeration exercise required a different methodology than what is traditionally used in KPC surveys. Interviewers visited 600 households and completed household listings in homes with children under the age of 15 (the international age cut-off for orphans). The head of the household served as the respondent for the household listing. Due to space limitations, the listing cannot be shown in its entirety (there are additional columns where information on school attendance and level of educational attainment were recorded and additional lines for the interviewer to record all members of the household).

In the case of MCDI/South Africa, the household listing also served as the basis for identifying the youngest child under age five (rather than under two) within each household. KPC surveys were then administered to the caregivers (maternal or non-maternal) of those children.

TO BE READ BY INTERVIEWER:

Who is the head of this household? (RECORD THE NAME OF THE LIVING HOUSEHOLD HEAD IN COLUMN 2, LINE 1. THEN ASK QUESTIONS FROM COLUMNS 3 –12 FOR THE HEAD.)

Please give me the names of all other persons who usually live in your household and guests who stayed here last night. (PROBE FOR EVERYONE IN THE HOUSEHOLD NOT JUST FAMILY MEMBERS, E.G SERVANTS, LODGERS ETC. REPEAT THE QUESTIONS FOR EACH PERSON WHO IS LIVING THERE NOW.)

	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO THE HEAD OF HOUSEHOLD	SEX	AGE	RESIDENCE	PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD**					
LINE NO.	Please give me the names of persons who usually live in your household who stayed here last night. PROBE FOR EVERYONE IN HOUSEHOLD	What is the relationship of [NAME] to the head of the household?*	Is [NAME] male or female?	How old is [NAME]? IN YEARS	Does [NAME] usually live here?	Is [NAME's] natural mother alive?	IF ALIVE Does [NAME'S] natural mother live in this household?	IF NOT ALIVE When did [NAME's] mother die? In what Year? In what Month?	Is [NAME's] natural father alive?	IF ALIVE Does [NAME'S] natural father live in this household?	IF NOT ALIVE When did [NAME's] Father die? In what Year? In what Month?
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
01		[]	M F 1 2	[]	Yes No 1 2	Y N DK 1 2 8	Yes No 1 2	Y Y [] M M []	Y N DK 1 2 8	Yes No 1 2	Y Y [] M M []
02		[]	M F 1 2	[]	Yes No 1 2	Y N DK 1 2 8	Yes No 1 2	Y Y [] M M []	Y N DK 1 2 8	Yes No 1 2	Y Y [] M M []
03		[]	M F 1 2	[]	Yes No 1 2	Y N DK 1 2 8	Yes No 1 2	Y Y [] M M []	Y N DK 1 2 8	Yes No 1 2	Y Y [] M M []

* Q.3 CODES FOR RELATIONSHIP TO HEAD OF HOUSEHOLD

01= HEAD
02= WIFE/HUSBAND
03= SON/DAUGHTER

04= SON-IN-LAW OR DAUGHTER-IN-LAW
05= GRANDCHILD
06= BROTHER OR SISTER

**Q.8 THROUGH Q.12 These questions refer to the biological parents of the child.

07= PARENT
08= PARENT-IN-LAW
09= MATERNAL NIECE/NEPHEW

10= PATERNAL NIECE/NEPHEW
11= CO-WIFE
12= OTHER RELATIVE

13= ADOPTED/FOSTER/STEP CHILD
14= NOT RELATED
98= DON'T KNOW

Rapid Knowledge, Practices and Coverage (KPC) Survey **MODULE 8: HEALTH CONTACTS AND SOURCES OF INFORMATION**

INTERVIEWER INSTRUCTIONS

ORGANIZATION OF THIS MODULE

Module 8 consists of three questions that assess the extent of contact with formal and informal health workers. The module also documents sources of health and nutrition information. Note that this module does not contain a tabulation plan or suggested list of indicators.

ASKING QUESTIONS AND RECORDING ANSWERS

In this module, all of the information that you will record is based upon answers directly provided by the mother. It is very important that you ask each question exactly as it is written on the questionnaire.

FILLING IN IDENTIFICATION INFORMATION

Before you begin asking the mother questions, record the cluster, household, and record numbers at the top of the questionnaire. This is the same information that you recorded on the cover page of the survey.

Q.1: FREQUENCY OF CONTACT

In Question 1, you will assess how often the mother comes in contact with different types of formal and informal providers. For each type of provider, ask the mother if she came in contact with the person frequently, sometimes, or never. Circle the appropriate response for each provider.

Q.2: SOURCES OF INFORMATION

In Question 2, you will ask the mother where she gets general information or advice on health and nutrition. Response codes are letters instead of numbers, reminding you that multiple responses are allowed. Circle all that are mentioned by the mother.

Q.3: MASS MEDIA AND HEALTH EDUCATORS

For Question 3, you will ask the mother if she has received health messages from each of the following: radio, television, newspaper, and health educator. You must circle 1 (YES) or 2 (NO) for each.

SUGGESTED QUALITATIVE RESEARCH QUESTIONS

The following open-ended questions may provide valuable information on how and where mothers obtain information:

- C How do people in this community communicate news and events?
- C Where do women feel most comfortable getting answers to their questions about health? About nutrition? About child care?
- C Within your family, who has the final say on decisions regarding health care? Food? Household Purchases? Your children?
- C What types of messages have you heard about health and nutrition?
- C From where have you received these messages?

IDENTIFICATION

CLUSTER NUMBER

HOUSEHOLD NUMBER

RECORD NUMBER



HEALTH CONTACTS AND SOURCES OF HEALTH INFORMATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			SKIP
1	During the last month, how often have you come in contact with each of the following: ¹	FREQUENTLY (4 or more times)	SOMETIMES (1-3 times)	NEVER (0 times)	
	DOCTOR	1	2	3	
	NURSE/MIDWIFE	1	2	3	
	COMMUNITY HEALTH WORKER	1	2	3	
	HEALTH EDUCATOR	1	2	3	
	GROWTH MONITORING PERSON	1	2	3	
	TRAINED BIRTH ATTENDANT	1	2	3	
	TRADITIONAL HEALER	1	2	3	
2	Where do you get general information or advice on health or nutrition? ¹ RECORD ALL MENTIONED.	FORMAL NETWORK DOCTOR A NURSE/MIDWIFE B AUXILIARY MIDWIFE C TRAINED BIRTH ATTENDANT D COMMUNITY HEALTH WORKER E HEALTH EDUCATOR F GROWTH MONITORING PERSON G INFORMAL NETWORK HUSBAND/PARTNER H MOTHER/MOTHER-IN-LAW I SISTER J GRANDPARENT K AUNT L FRIEND/NEIGHBOR M TRADITIONAL HEALER N VILLAGE ELDER O OTHER _____ X (SPECIFY)			

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP
3	In the past month, have you received any health messages from the following?	<u>YES</u>	<u>NO</u>	
	RADIO?	1	2	
	NEWSPAPER?	1	2	
	TELEVISION?	1	2	
	HEALTH EDUCATOR?	1	2	
	COMMUNITY HEALTH WORKER?	1	2	

¹ PVO to revise list of responses according to the local context.

METHODOLOGY AND SAMPLING ISSUES
FOR KPC SURVEYS

November 30, 1999

Eric Sarriot, MD, MPH, DTM&H

Peter Winch, MD, MPH

William M. Weiss, M.A.

Jennifer Wagman, MHS

Johns Hopkins University, School of Public Health, Department of International Health

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Abbreviations used

CI	Confidence Interval
CS	Child Survival
DEf	Design Effect
DHS	Demographic and Health Survey
DPI	Detailed Program Implementation
EPI	Expanded Program of Immunization
IMCI	Integrated Management of Childhood Illnesses
KPC	Knowledge Practice Coverage
LQAS	Lot Quality Assurance Sampling
MICS	Multi Indicator Cluster Survey
MOH	Ministry of Health
PLA	Participatory Learning and Action
PVO	Private Volunteer Organization

Introduction

This report is intended for PVO child survival program managers as a methodological complement to the revised KPC survey. It is not a manual or a training guide for the implementation of the KPC survey, although it may be used in conjunction with other training materials. Its purpose is to clarify some of the methodological questions that have developed from the use of the KPC survey over the last 10 years. It consists of three sections:

Section 1: Approaches to program monitoring and evaluating for results with surveys

Objectives: *At the end of section 1, the reader will be able to:*
Distinguish three different types of results assessed through surveys.
Describe the initial and fundamental purpose of the KPC survey.

Section 2: Evaluation objectives of KPC surveys

Objectives: *At the end of section 2, the reader will be able to:*
Present three different levels of evaluation for results using KPC survey data.
Offer methodologically-appropriate strategies for conducting each level of results evaluation.
Discuss the implications and the feasibility of each evaluation design from a program management perspective.

Section 3: Sampling options for KPC surveys

Objectives: *At the end of section 3, the reader will be able to:*

Explain how the cluster-sampling method was adapted for the KPC survey, from the EPI 30-cluster sampling method.

Describe what the design effect (DEf) in cluster sampling is, and its importance for program evaluation.

Choose an appropriate strategy to solve common methodological problems encountered with cluster sampling for KPC surveys.

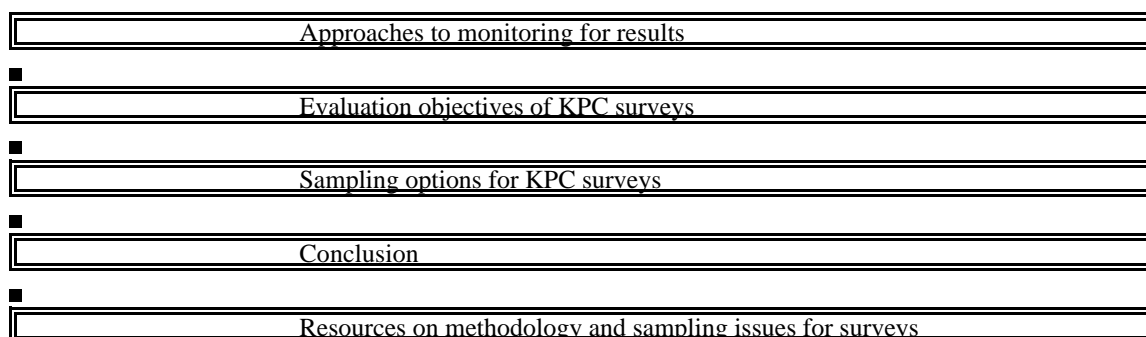
Have a clear understanding of Lot Quality Assurance Sampling (LQAS), its basic principles, and its application in the assessment of child survival programs.

Compare the respective strengths and weaknesses of cluster vs. lot quality assurance sampling.

Finally, some guidelines and manuals on survey and sampling issues are presented to the reader in the annex of the document.

The structure of this report is summarized in figure 1.

Figure 1: structure of the report:



SECTION 1 : Approaches to monitoring for results

Evaluation objectives of KPC surveys

Sampling options for KPC surveys

Conclusion

Resources on methodology and sampling issues for surveys

Objectives: *At the end of section 1, the reader will be able to:*
distinguish three different types of results assessed through surveys;
describe the initial and fundamental purpose of the KPC survey.

1. Monitoring for results through population-based surveys

The achievements of child survival programs can be categorized as:
activities (inputs and processes) conducted by the program,
objectives: from outputs (benefits directly and immediately received by the population of
intervention) and outcomes (intermediate results) to final results (long term impact),
Goals such as reduction in mortality are beyond the responsibility of one single project.

Program or service monitoring systems will measure activities. Immediate, intermediate and long term objectives or results are usually assessed by surveys of the communities where the intervention took place. Health impact can be measured by anthropometric surveys, and morbidity and mortality surveys, such as the DHS survey (figure 2). The Knowledge-Practices-Coverage (KPC) survey, and others such as UNICEF's Multiple Indicator Cluster Survey (MICS) survey, focus on program outcomes such as the knowledge and practices promoted in the 'target community', as well as on indicators of coverage for the services delivered (e.g. immunization coverage). Each level of measurement requires a specific tool, for

which an appropriate sampling scheme has to be designed. The focus of this report is on monitoring outcomes and results through population-based surveys, specifically KPC surveys. Its development, over 10 years ago, and its fundamental purposes will now be discussed.

Figure 2: Surveys for monitoring for results

2. Development of the KPC survey

The KPC survey was developed 10 years ago, at the request of USAID, in order to provide a uniform approach to baseline and final data collection in child survival programs of PVOs working in different countries {PVO Child Survival Technical Report; 1993}. Before its development, the prevailing situation was that few projects had conducted any type of survey by the time of submission of their DIP (Detailed Implementation Plan). Those which did used samples of varying sizes, measured different variables and had different purposes for the survey they conducted. The KPC survey became a requirement for all baseline and final assessments for some years after 1991. (Even though it is still widely used, it is no longer a requirement for USAID-funded projects). Its purpose was, from the start, to be a standardized, scientifically valid and reliable, low-cost management and evaluation tool. It had to allow quick data collection by field staff (in about 20 minutes per household) on key behavioral and coverage indicators, susceptible to change over the period of a project.

Because it is impossible to survey an entire population, survey evaluation methods have to rely on extracting a sample from this population to conduct the analysis. We rely on chance (randomization) to *limit* the bias in the selection of the sample. If all members of the population have the same chance of being drawn into the sample, we expect that our sample will be representative of the entire population. This expectation needs to be confirmed by a comparison of the sample's characteristics (demographic, socio-economic, urban vs. rural, etc.) with the information available about the larger population.

Because we rely on a sample, we will only be able to estimate the true percentages achieved for each indicator. Statistical principles teach us that the greater our sample size, the greater the precision of our estimate. Specific formulas are available in all statistical manuals, and guide the evaluator in the selection of a sample size allowing to calculate an estimate or to make a comparison with a theoretical value (for example a performance objective).

Cluster sampling was proposed as a reliable and cost-efficient way to gather the information needed, and has been the primary sampling method used in KPC surveys over the last 10 years. This sampling method was selected assuming that the data collected would be used for the purposes of decision-making and program management. The KPC survey was never expected to be a tool to address research issues or gather in-depth social and demographic data, which would require different questions and different sampling approaches.

During the last 10 years KPC cluster-surveys have considerably improved the ability of PVO Child Survival projects to identify priorities, define objectives based on data, and measure progress towards these objectives. KPC cluster-surveys were never expected, much less designed to measure change between two periods of time, or to compare different groups of population in order to demonstrate that a specific intervention was the cause of an observed change. (figure 3). Assessing change over time and demonstrating causality have very specific requirements and constraints, which will be discussed in section 2.

Figure 3: Realistic and unrealistic expectations about KPC surveys (under the standard 30-cluster design, with 10 observation units per cluster)

() The KPC survey does not forbid attempts to make such demonstrations, providing modifications of its design, but it was not conceived in its standard use with 30 clusters of 10 households to be able to answer these questions satisfactorily for all indicators.*

SECTION 2: Evaluation objectives of KPC surveys

Sampling options for KPC surveys

Conclusion

Resources on methodology and sampling issues for surveys

Objectives: *At the end of section 2, the reader will be able to:*

Present three different levels of evaluation for results using KPC survey data.

Offer methodologically-appropriate strategies for conducting each level of results evaluation.

Discuss the implications and the feasibility of each evaluation design from a program management perspective.

We will now consider the three phases of a project at which a KPC survey can usually be implemented and then describe three levels of program evaluation, or three types of evaluation questions that program managers and evaluators may wish to address:

Have the program objectives been reached?

Has change taken place in the intervention population for selected indicators?

Did the program cause the observed change?

It is essential to emphasize at this point the different perspectives of statisticians and managers about these questions. While the former focus on rejecting hypotheses based on probabilistic approaches, the latter are driven by a need to extract meaning from the survey data in order to come to a decision. We will stress how these two perspectives affect methodological and sampling issues throughout our discussion.

A KPC survey can take place at three points in the life of a project: at baseline and at the end of the project, but also during the life of the project, somewhere around a mid-point.

Baseline survey

The baseline survey provides a general profile of the population of intervention with regards to key indicators. Uncertainty and subjectivity in the determination of priorities and objectives are reduced by the survey data.

Mid-term evaluation

Mid-term evaluations do not always include a KPC survey. They may rely on the service level monitoring data, and vary in the depth of their analysis. There is a broad range of questions that monitoring can try to answer, from specifying exactly what services are being delivered, to assessing the quality of the services delivered and, finally, measuring the results at the community level.

Obviously the level of complexity increases as one tries to answer each question. The data may be available from service monitoring records, direct observation and interviews of 'clients', or rapid assessments combining focused survey questions and qualitative research tools. Surveys will not always provide the most appropriate answers and it is unlikely that they will be conducted with samples large enough to allow any comparison with the baseline. Evaluators and managers should focus on the appropriateness and usefulness of the questions, rather than on issues of power and sample size. The impact of a project's IEC component might be constrained by important cultural issues, which will be explored more efficiently by observation for example, than by survey questions. A few structured 'live observations' of nutrition programs' graduates in their homes for example, might shed more light on the constraints faced by the program than any survey question possibly could.

Mid-term evaluation should then focus on providing a general sense of what the program's accomplishments are, and answering key qualitative questions about the services

delivered.

Final Evaluation

Finally, the KPC survey can be conducted at the end of the intervention, as part of a final evaluation. Managers will try to assess the results of the program and possibly to answer different questions through this final (or summative) evaluation (figure 4):

Were objectives reached in the region of implementation of the program?

Can the program demonstrate an improvement over time in knowledge, practices, or coverage, from the baseline levels?

Can the program demonstrate its specific responsibility in an observed change between baseline and end-point evaluation?

Obviously, these questions make sense only if the program *activities* have been conducted as planned. Monitoring records, process evaluation, and mid-term evaluation data, if they are available, will provide information about the basic question of the delivery of services. Our discussion focuses here on the *achievements* of the program and the related evaluation questions.

Ideally, program managers would like to be able to answer all these questions for themselves and for the donor agency. But this is not what the KPC cluster-survey was designed to do (in its standard format of 30 clusters of 10 households each). It is important to fully understand that, while the baseline data allow the manager to set reasonable objectives for the program, the 30-cluster design does not establish the most appropriate baseline for comparison point with data from the final KPC survey. Comparing a final estimate to a fixed objective, comparing this estimate to a previous estimate and establishing the causality of the program in a demonstrated change are three very different questions, constrained by different methodological requirements, which will now be discussed.

Figure 4: Levels of program evaluation and increasing methodological constraints

1. Assessing progress towards objectives

A sample size of 30 clusters of 10 households is sufficient to provide an estimate with $\pm 10\%$ precision for a coverage rate, and can establish with reasonable confidence (determined by the α -value traditionally set at 5%) whether an objective has been met or not. Because the estimate is compared with a fixed value (the program performance objective), only one level of imprecision has to be taken into account (figure 5).

Let us consider that, based on our sample of 300 survey respondents, we have obtained an estimate of 80% for the coverage rate on this indicator. The meaning of choosing a confidence level of 5%, and achieving a precision level of $\pm 10\%$ is that:

The true coverage rate in the entire population (which we do not know but estimate at 80%) has a 95% chance of being within 10% of our estimate, (in this case between 70% and 90%).

Let us now consider four possible levels of objectives that our project could have initially set out to reach:

- Objective A (e.g. 68%) is outside and below the confidence interval of our estimate,
- Objective B (e.g. 75%) is below our estimate but within its confidence interval,
- Objective C (e.g. 85%) is above our estimate but within its confidence interval,
- Objective D (e.g. 93%) is outside and above the confidence interval of our estimate.

Table 1 suggests the conclusions that can be made, from a statistical perspective and from a management perspective about these four different situations.

Figure 5: Comparison of a final estimate to a pre-set objective (hypothesized at four different values)

Table 1: Assessing achievement of objectives

Level of objective	Statistical Conclusion	Managerial Conclusion
Objective A	The difference between our best estimate and objective A is statistically significant. We reject the hypothesis that the population coverage rate is equal to the pre-set objective. We are more than 95% confident to have reached our objective.	Our objective has been reached. 6 Continue activities, or 6 Expand program, or 6 Plan transfer and phase-out 6 etc.
Objective B	We cannot reject the hypothesis that the population coverage rate is equal to the pre-set objective. Our best estimate is that the population coverage rate is 5% higher than objective B, but the difference is not statistically significant.	Our objective has probably been achieved (our best estimate is that we are 5% above objective). There is no evidence that we have failed to reach our objective, but we cannot prove that we have achieved coverage higher than the objective. 6 Was performance homogenous in all local areas of interventions? 6 Do other sources of information support or contradict our conclusion?
Objective C	We cannot reject the hypothesis that the population coverage rate is equal to the pre-set objective. Our best estimate is that the population coverage rate is 5% lower than objective C, but the difference is not statistically significant.	Our objective has probably not been achieved (our best estimate is that we are 5% below objective). There is no statistical evidence that we have failed to reach our objective, but we cannot prove that we have achieved coverage higher than the objective. 6 Was the objective too ambitious? 6 Was performance homogenous in all local areas of interventions? 6 Do other sources of information support or contradict our conclusion?
Objective D	The difference between our best estimate and objective D is statistically significant. We reject the hypothesis that the population coverage rate is equal to the pre-set objective. We are more than 95% confident that our program has not reached its objective.	Our objective has not been reached. 6 Was the objective too ambitious? 6 Was low performance homogenous in all local areas of interventions? or 6 Are specific local areas responsible for overall low performance? 6 Plan and implement corrective measures

As illustrated in this theoretical example, once a hypothesis is formulated (e.g. an estimate is equal to or superior-or-equal to a set value), statistical tests achieve a high level of certainty when they can disprove this hypothesis. On the other end, managers look for positive

evidence that they have achieved this objective. This ambiguity cannot be totally resolved, but a better understanding of its nature will help managers make better use of survey results.

Defining objectives and assessing achievement of objectives belong in the field of management and decision-making. Relatively small samples are allowed, and the data can be collected and computed by field-staff. The 30-cluster sampling scheme for the KPC survey was chosen to achieve this level of precision and reliably answer these management questions.

2. Demonstrating change

Comparing a final estimate to a set objective only introduces one level of imprecision: that of the estimate. But, in order to compare final and baseline estimates, two levels of imprecision, those of the baseline estimate and the final estimate, have to be taken into account, and require an increased sample size *for the two* surveys. (The reader is encouraged to refer to the appropriate statistical textbooks for a better exposition of the statistical principles involved. Annotated numerical examples of sample size calculation for comparison with a pre-set objective and comparison between two samples are provided in section 3.)

While in the previous example, we were testing whether a fixed value was below or within the confidence interval for our estimate, we are now testing whether two estimates, each with its own imprecision, are statistically different. In the first case, we established with 95% confidence that the objective of 68% coverage (objective A) was not in the confidence interval of our estimate (70% to 90%). In this second situation, we must calculate a confidence interval for the difference between the two samples. (We can also test whether this difference is significantly different from zero, the two methods being equivalent.) In order for us to statistically demonstrate a difference between the two estimates, we will need a larger sample at each phase, thus reducing the two levels of imprecision.

Figure 6: comparing estimates from two sample

The decision to make a before-after comparison must be taken before the onset of the

program, and the sample size of the baseline survey must be calculated appropriately. (Correcting the final survey sample size for a late decision to ‘power the survey’ in such a way as to be able to make a comparison is sometimes possible, but not entirely recommendable.) Although the desire of program managers to compare the final and baseline estimates for different KPC indicators is understandable, they should only do so under the following conditions:

First, establish whether the confidence interval for the final estimate excludes the program objective for a given indicator. Statistical evidence should be used when it exists. This first level of assessment is important in establishing with what level of certainty the program is thought to have reached its objectives (refer to table 1).

Then, if a comparison of baseline and final results is presented, the evaluator should make explicit whether the sample size for the two surveys did or did not attempt to be able to demonstrate a difference with statistical significance.

An observed difference should be reported with its confidence interval (see annotated sampling example # 5).

Finally, inasmuch as possible, other sources of information should be used to try and assess whether the observed difference may or may not be genuine.

What type of demonstration (probable or plausible) can be made about the observed difference in estimates?

Managers and evaluators must be clear about the type of demonstration they are trying to make. Unless they set themselves, from the inception of the program on, to do so, they should *not* try to demonstrate change probabilistically. *Probabilistic* demonstration can refer, however, to the observed achievement of objectives in the populations of intervention when the samples’ size provide enough power for a comparison test. In the case of the comparison of the two estimates, with 30-clusters of 10 households, given the size of the Design Effects (to be discussed further below) the sizes of the two samples are not expected to provide enough statistical power for a probabilistic demonstration of change. In other words, the observed change between baseline and final evaluation will usually not be statistically significant.

What managers and evaluators can attempt to support, however, is the *plausibility* of a change in the population, based on the spectrum of data available for their consideration.¹

What other sources of information can be used to *triangulate* with the data collected?

Triangulation means using different sources of information in order to support the evidence for an observed difference (or lack thereof). The evaluator may refer to other surveys on national trends, focused research in the program intervention area, trends observed in non-intervention areas with similar cultural, social and demographic characteristics, in order to support the plausibility of a purported change between the baseline and final situations.

The complexity increases when there is a larger national and secular negative trend for a given indicator, which the program attempts to limit or correct, for example when immunization coverage at the national level is decreasing. In this situation, a lack of difference between the two phases would be a positive outcome, and it is by reference to other reliable data sources, or to similar measures in control areas, that a program can suggest its impact. Qualitative and ‘subjective’ analyses are going to be part of an evaluator’s report in such a case. Rigorous evaluation requires being explicit about the assumptions and limitations of the evaluation, however, and not making inappropriate use of statistical inference, when the study design does not allow for it.

3. *Demonstrating causality*

Demonstrating the causal role of an intervention in effecting an observed change requires that other (spurious) factors that could also have produced the change be accounted for in the study design. This is the level of analysis with which researchers are concerned, far more than managers. The results achieved in the areas of intervention must be compared with those in non-intervention or control areas. Causality will be attributed to the intervention if the following conditions are fulfilled:

A positive change has been observed in the regions of intervention.

Exposure or service coverage indicators are high in the regions of intervention.

Non-intervention regions have not reached the same levels of exposure, or service coverage.

The change has not occurred with the same amplitude in the non-intervention regions. The intervention and non-intervention regions are comparable with regard to all other factors.

Spurious factors of change, and possible threats to validity have been accounted for.

These questions cannot be answered outside of strictly controlled study designs (see box 1) where the control areas are comparable to the intervention areas and allocation to the control or experimental group is determined at random (see box 2). This rarely corresponds with the mix of epidemiological, pragmatic, and political factors influencing the choice of a region of intervention in a PVO Child Survival project. Pseudo-experimental study designs (selection of a control area without randomization) are frequently the only alternative possible, but increase the level of uncertainty about the validity of the findings. Large sample sizes allowing comparison between time period and monitoring in different areas (both intervention and control) are also required.

In some situations, when randomization takes place at the community level and not at the individual level, it is recommended for evaluators to use statistical tests based on the level where randomization has taken place.² This issue cannot be treated in depth in this report, but a practical example is provided in the next section (example 6 in section 3).

There are many potential threats to the validity of the inferences made that the evaluator will also need to consider (box 3). It is not the purpose of this paper to discuss them now, but only to emphasize that demonstrating causality requires a high investment in measurement and analysis, much beyond what is expected of child survival program evaluation.

Box 1: Why are control groups needed?

Human behaviors and health status indicators are not elements fixed in time. Many factors will influence them, from national policies, to local events and processes, not to forget the effects of mass media, migration, new infrastructures in the local economy, etc. It would not be unreasonable to assume that an indicator measured through a population-based survey would remain unchanged over the course of three to five years. Practice and coverage indicators may increase or decrease during the usual period of time between a baseline and a final evaluation, independently of our programs.

Control groups allow us to compare the results in the intervention areas with those due to all these other factors, as they are observed in the control areas. The specific impact of a child survival intervention will be given by a comparison between control and intervention zones. If a given indicator has failed to improve throughout the intervention, the program may still benefit from a positive evaluation if the trend has been on a decrease in coverage for this particular indicator in the control zones. Inversely, there would be no reason to credit a program for a measured increase in breastfeeding practices in the intervention zones, if this increase has a similar amplitude in control areas (presumably due to another and larger program, or to a secular trend).

Box 2: Why use random procedures to select groups?

The entire premise of a comparison between control and intervention areas rests on the comparability of the two types of areas. Control areas should be similar to intervention areas in all things, except for benefiting from the intervention. Because each area has the same chance of being selected for the intervention as any other, random selection is our best tool to reduce all the possible biases affecting a comparison.

Inversely, if a region is chosen for an intervention because of political factors, or because of the pre-existence of partners and networks, it is likely (or at least it cannot be reasonably excluded) that the same factors that put the region in a position to be 'favored' would also prevent it from being compared to non-intervention areas.

Box 3: What are threats to validity?

Even when all the conditions for an experimental design have been respected, and a specific indicator is improved in the intervention areas statistically significantly more than in non-intervention areas, factors external to the study can interfere with the observed difference in change. These factors are called threats to validity, as they may render the study's conclusions about the effect of the intervention invalid. These threats to validity may be time-related change in the indicator among either of the study groups, instrumentation, sensitization, and other method-related biases, population changes in either type of group, 'contamination' of the control areas by elements of the intervention, etc. Only careful and systematic consideration of each possible threat will help the evaluator estimate or rule out their influence, and support the validity of the evaluation findings.

Figure 7 summarizes the differences and increasing complexity of the different levels of analysis in monitoring program results.

Figure 7: Levels of program evaluation and increasing methodological constraints:

4. Improving program management

The appropriate level of (im)precision for management needs

Evaluation methods need to be tailored to the decision making process. Because many factors will remain uncontrollable in the evaluation design, managers and evaluators must start from the endpoint of the decision and then systematically consider:

- which questions need to be answered,
- how survey or other methods can provide this information,
- what level of precision in the measurement is to be achieved with the resources available,
- what other sources of information can shed light on the qualitative process of sifting through the data to assess the results achieved by the intervention.

Imprecision cannot be eliminated from evaluation, but programs should make reasonable decisions about how much precision is needed. A larger sample size will increase the precision of an estimate. But this increased precision will come at a certain cost. If this cost

is too high, evaluators and managers should consider alternative strategies for collecting information and should not expect a 30-cluster survey to be the answer to all their needs.

Evaluation as a capacity-building exercise

Local capacity-building is a key purpose for the development of better monitoring and evaluation systems in CS projects. Developing the local capacity to base decisions on reliable data, through a critical review of all the information available, is to be a goal of every program. The sustainability of the information systems being designed is consequently one central question to be addressed in selecting an evaluation method.

By involving local partners in the design or adaptation of the KPC survey as well as in the survey implementation and data analysis, KPC surveys provide a way to raise the awareness of local partners on the critical problems targeted by the program. Any ‘improvement’ on the evaluation design should be weighed, not only in terms of the added information benefits, but also by considering the increased complexity of data collection, computation and analysis. Part of the responsibility of managers in program assessment is to ensure that the evaluation systems being developed will be transferable to national counterparts along with the rest of program management responsibilities.

Approaches to monitoring for results

Evaluation objectives of KPC surveys

SECTION 3: Sampling options for KPC surveys

Conclusion

Resources on methodology and sampling issues for surveys

Objectives: *At the end of section 3, the reader will be able to:*

Explain how the cluster-sampling method was adapted for the KPC survey, from the EPI 30-cluster sampling method.

Describe what the design effect (DEf) in cluster sampling is, and its importance for program evaluation.

Choose an appropriate strategy to solve common methodological problems encountered with cluster sampling for KPC surveys.

Have a clear understanding of Lot Quality Assurance Sampling (LQAS), its basic principles, and its application in the assessment of child survival programs.

Compare the respective strengths and weaknesses of cluster vs. lot quality assurance sampling.

1. Cluster sampling

1.1. Presentation

The most commonly used probability sampling methods are:

Simple random sampling,

Stratified random sampling,

Systematic sampling, and

Multistage cluster sampling.

A simple random sample is the most direct way to extract a sample from the population. The sampling frame must include each and every individual in the population. This requires a comprehensive demographic data base or inventory of households and, in the setting of a developing country, would induce very large expenses to survey a very small number of persons in any one village or district.

A systematic random sample is very similar to a simple random sample, but differs from it by the method of extraction of the individuals from the sampling frame.

In stratified random sampling, the population is divided into strata, or sub-groups, and a random sample is extracted from each sub-group. The definition of the sub-groups depends entirely on the theoretical basis of the intervention, and its expected impact on the different strata defined. Stratified random sampling brings an additional level of complexity and cost to the sampling process, but it ensures that all pertinent sub-groups will be included in the sample.

Cluster sampling, which will be discussed in greater depth as it applies to KPC surveys, involves the random selection of clusters (naturally occurring units such as villages, city blocks, schools) and the selection of all members of the selected cluster in the sample.

In multistage cluster sampling, simple random sampling is used within the cluster to select the members of the sample.

Figure 8 provides a comparison of simple random sampling and cluster sampling.

Figure 8: a comparison of simple random sampling and cluster sampling

Multistage cluster sampling makes use of the existence of natural groups where populations aggregate: schools, hospitals, villages, etc. The first stage of sampling consists of randomly selecting a number of such clusters. In a second stage, individuals or households are randomly selected within the clusters. This approach allows the randomization process to take place on a sampling frame made of villages, urban districts, or whichever cluster unit has been defined, instead of a comprehensive list of the population of the region of interest.

WHO and UNICEF developed the EPI 30-cluster sample method to assess the immunization coverage at a national level in a cost-effective and rapid way.³ In this approach, after the selection of 30 clusters, seven households are randomly selected within each cluster, and available mothers of children in the 12-23 months age group are surveyed. This yields a total sample size of 210 children and provides an estimate within 10 percentage points of the

population immunization rate. The determination of the number of clusters and of the total sample size for the EPI surveys, to achieve the $\pm 10\%$ level of precision, are explained in figure 99.

A simple random sample of size 96 would produce this level of precision, but require the visit of 96 different sites by the surveyors. By randomizing clusters at the first stage, the number of sites visited is limited to 30 clusters. This number of clusters was chosen as the minimal number necessary to respect the Central Limit Theorem, a key principle in statistics. More clusters would increase the precision and the cost of the survey, while less than 30 clusters would lead to too great a risk of misestimating the true coverage for the area. As will be presented in the next sub-section, the clustering of the data collected introduces an additional level of imprecision, which requires increasing the sample size in order to maintain the level of precision. The EPI sample size of 210 children is thus a compromise between various types of constraints: methodological and logistical.³

The KPC survey involves a larger age group of children as it targets children aged 0 to 24 months. To maintain an approximate $\pm 10\%$ level of precision for most variables (remembering that the sample size, level of precision and DEf are all variable-specific), the minimum sample size for the KPC survey was set at 300 (30 clusters of 10 children) instead of 210 (30 clusters of seven children), yielding average sub-sample sizes around 120 for 12-23 months children, and 60 for the age-group 0-6months.

Important points to note at this stage are that:

- C There is nothing particularly scientific in the choice of a $\pm 10\%$ margin of error. It was chosen as a seemingly reasonable compromise between the costs and advantages of gaining more precision.
- C Each program should determine when a higher level of precision is required and increase the sample size accordingly (options for doing this are also discussed below).

Figure 9: Comparison of two ways of calculating sample sizes for immunization coverage

1.2. What is the design effect?

Cluster sampling introduces the notion of a design effect (DEf). As individuals are more likely to share common characteristics within clusters than if selected by direct random sampling, a new level of imprecision is added in the calculation of overall estimates. This added level of imprecision is called the design effect. The DEf can be calculated *after* the study as the proportion of the sample variance due to clustering over the variance of a non-clustered random sample. (In some cases this ratio of the variances is referred to as DEf^2 and called the “design effect”, while the ratio of the standard errors is called the “design factor”. This distinction is not always clear in the literature.) It can also be estimated from previous studies on similar indicators, and with similar frequency distributions. Inversely, it is used to correct the sample size needed to achieve a given level of precision. In the absence of specific information about its value, it is usually assumed to be equal to two in EPI and KPC surveys. But in each specific setting and for each indicator, statistical software such as EPI-INFO’s CSAMPLE, allows us to estimate the expected DEf for a final evaluation, from the results of the baseline survey. (The KPC Survey Trainer’s Manual provides a formula to calculate the confidence interval of an estimate by hand by estimating the DEf (e.g. based on the results of the baseline evaluation). See appendix to this report.)

The DEf has certain characteristics:

It increases with the measurement of continuous data (e.g. weights or heights) as compared to dichotomous data (e.g. immunized Yes/No).

It decreases with stratification within clusters, because stratification reduces the homogeneity within the cluster.

It increases with the length of the data collection time.

It depends on the prevalence of the disease or indicator being measured.

It increases with the cluster size, and with differences in cluster sizes.

It increases with the magnitude of the disease association within cluster.

An in-depth discussion of Df issues can be found in other publications.⁴⁻⁶ But it is essential to emphasize that:

Cluster sampling increases imprecision.

The design effect must be taken into consideration when building a confidence interval for an estimate.

The Df value can vary substantially depending on the indicator investigated and on the context⁷⁻¹¹, a study of Df observed on a number of KPC indicators in different CS projects finds that Df are closer to 1.5 than 2.0 for many variables (table 2). (Weiss W.M., 1999, unpublished)

The same study suggests that baseline and final surveys should be conducted during seasons of high diarrhea prevalence, in order to obtain sufficient precision on ORS and ORT practices.

Numeric examples of the use of Df in calculating a sample size are provided in section three.

Table 2: Df values encountered in different CS projects for specific indicators in CS projects in Nigeria, Indonesia, Honduras, Bangladesh, Papua New Guinea, and Honduras (Weiss W.M., 1999; unpublished)

Indicator	Range of Df
ORT use	1.06 - 1.79
Measles Immunization	1.06 – 2.16
Exclusive breastfeeding < 6mo	1.08 – 1.91
TT2	1.45 – 2.81

In considering the sampling options in a KPC survey, the evaluator can be faced with four additional types of methodological questions:

How can the precision of the estimates be increased in spite of the Df?

How can sub-groups in the sample (for example children 0-6 months old) be large enough to measure progress on a set of age-specific indicators?

Can the survey provide information about local districts, or determine which areas are

reaching their objectives or not?

How to obtain reliable information about sensitive or complex questions unlikely to be answered through a survey question?

These four questions will guide the rest of our discussion and are presented in figure 10.

Figure 10: Options for improving on the 30-cluster KPC method

Question		Option (Section)
How can the precision of the estimates be increased in spite of the DEf?	Y	Decrease the homogeneity within clusters. (1.3.)
How can sub-groups in the sample (for example children 0-6 months old) be large enough to measure progress on a set of age-specific indicators?	Y	Strategies for ensuring a sufficient sub-group sample size (1.4.)
Can the survey provide information about local districts, or determine which areas are reaching their objectives or not?	Y	Alternative sampling strategy: Lot Quality Assurance Sampling (2.)
How to obtain reliable information about sensitive or complex questions unlikely to be answered through a survey question?	Y	Use of qualitative methods and non probability sampling.

1.3. Decreasing the homogeneity within clusters

The more respondents to the survey will be similar to one another with regards to the key indicators, the larger the DEf and the imprecision of the estimate will be. This will in turn make the demonstration that a particular objective has been reached more difficult. There is not one single strategy that totally controls for this effect, but some orientations are suggested for improving the sampling strategy *within* clusters:

Empirically, the clearest benefit in terms of reducing the DEf has come from selecting the next

third, or next fifth from the first selected central household (instead of sending surveyors from that central household on to the next one directly).⁵

The random selection of households within a village can be initiated from different points:

Selection of an initial household from the periphery of the village in addition to a central starting point has been suggested. The results (in terms of gain in precision) are not perfectly satisfactory and will depend on the size and type of the village.

Homogeneity will be decreased if the randomization procedure is started not from one central household but from four households, each central to a quadrant of the village.

Stratification, which we will discuss in the next section, because it pools respondents from each subgroup in each cluster, also decreases the homogeneity within clusters.

Overall, the DEf will remain an issue in cluster surveys, and its importance will vary with the clustering tendencies of each indicator and with the settings. Program managers and evaluators should develop a sense of its importance and consider possible strategies for diversifying the sample within clusters. Unfortunately they will not be able to validate the pertinence of their strategies without the use of statistical software (such as EPI-INFO), capable of calculating the DEf.

1.4. Options for managing sampling questions within sub-groups

A number of questions in the KPC survey refer not to the entire population surveyed, but to specific sub-strata in the sample (e.g. children 0-4 months or 0-6 months for exclusive breastfeeding). The sample size in any sub-stratum is obviously going to be lower than the total sample size. This will reduce the precision of the estimate within this subgroup and reduce the power of our tests. In other words, we may not be able to answer whether the objective for exclusive breastfeeding has been reached (the targeted percentage of exclusive breastfeeding mothers will be within the confidence interval of our estimate).

When it is of particular importance for the program to assess a situation with precision in that particular stratum, different alternatives are possible (table 3):

stratification,

increasing the overall sample size,
over-sampling in the specific age-group,
parallel sampling.

Table 3: options for increasing sample size in sub-groups

Method	Description	Advantages	Constraints
Stratifying	The population is divided in as many strata as specific sub-groups of interest (sex, age-groups). The sample is predetermined to include a defined number in each stratum, with the same contribution from each cluster.	The number of respondents in each stratum is known beforehand, the level of precision of the survey is improved (by decreasing the DEf), and no group is under-represented. Simple and straightforward.	Adds complexity to the sampling strategy.
Increasing the entire sample size	<p>The entire sample size is increased, and it is expected that the sample size of each sub-group of interest will also be increased proportionally.</p> <p>The number of clusters can be increased, or the number of respondents within clusters can be increased.</p>	<p>Precision will be improved by an increase in the number of clusters, as opposed to an increase in cluster size.</p>	<p>Increasing the number of clusters is costly.</p> <p>Increasing the size of the clusters will increase the DEf.</p> <p>Leaves to chance the selection of a sufficient number of children in a given age group.</p>
Over-sampling in the age-group of interest.	To have a precise coverage rate for immunizations among 12-23 months old children, the surveyors will be instructed to survey 10 children in each cluster, as they would normally, but then to interview additional mothers, exclusively about the EPI questions, until 7 children in total have been surveyed in the 12-23 months old age group. (In this case, this strategy would achieve a sample size of 210 children for the EPI questions). In most instances, this will only require adding two more children in the cluster. These two children will only be included in the analysis of the EPI questions.	Since these additional two are surveyed exclusively on the questions of immunization coverage, the added time (and cost) is relatively limited.	
Parallel sampling	A specific survey is administered for two different age groups. The sample size is calculated for each one separately, and two different questionnaires are prepared. The mothers are sampled from the same clusters and the same households and the two surveys are conducted through the same surveyors, using the same logistics. For each group, the desired level of precision is chosen and determines the size of the cluster for the age group.	<p>Cost-efficient use of logistical resources to obtain a predetermined level of precision in two different groups.</p> <p>Similar to stratification.</p>	Requires two questionnaires.

Over-sampling and parallel sampling represent cost-efficient approaches to reaching a satisfactory level of precision for important programmatic questions. The increases in cost and time of data collection are limited, and the data analysis process is not excessively complex. Once more, the need to provide information for management decision should lead the choice of the questions and that of the sampling strategy.

2. Management information at the local level and Lot Quality Assurance Sampling (LQAS)

2.1. A comparison of LQAS and cluster-sampling

One of the limitations of cluster-sampling in surveys is in the provision of management information at the local level. To illustrate this issue, let us imagine a PVO program overseeing the work of 10 local organizations, each responsible for one area of the region of intervention, with the objective of increasing measles' immunization coverage (figure 10). Supposing that the measles' immunization rate for the region has been established at $50\% \pm 10\%$ through a 30-cluster KPC survey.

Figure 10: Management information at the local level through cluster surveys – illustration.

As illustrated in our example, clusters may not correspond to a specific area of intervention. Clusters are not a representative random sample from each area for which we need estimates. Additionally, the size of the sample within a cluster is small and does not allow us to make estimates. The cluster sampling method helps the manager determine the scope of a problem for the entire program, but does not provide information about which local areas (which supervisors, or which sub-contracting agency) are performing better, and which require additional investments in training or other forms of support. As resources are limited, the program would be interested to know which areas are causing the overall low coverage rate, to take corrective actions, and which are achieving a much higher rate, in order to analyze the reason for their success.

LQAS (Lot Quality Assurance Sampling) provides an answer for these questions, and also gives an overall regional coverage rate estimate with a superior or equal precision level.

The reader is referred to other publications for an in-depth explanation of LQAS, its guiding principles and its development. A brief presentation of LQAS is given in Box 4. We will focus on illustrating what information can be provided through LQAS.

Keeping within the same illustration, let us now consider that local area supervisors conducted the KPC survey after having received a two-day training about LQAS (figure 11).

Figure 11: Use of LQAS in KPC surveys

LQAS can provide information at the local level with a small sample because it seeks to answer whether a given coverage is above (or below) a particular threshold judged satisfactory (or unsatisfactory), but does not provide an estimate of coverage at this local level. In other terms, managers can use LQAS not to estimate the coverage within a given area but to answer whether the area is a “high performance” or a “low performance” area with respect to measles’ coverage.¹²

Table 4 offers elements of comparison of LQAS and cluster sampling. LQAS’s strength is in its ability to provide decision rules usable at the peripheral level, while cluster sampling offers a rapid and simple method to assess the situation at a regional or district level.

In terms of cost, the principal advantage of LQAS is the ability to decentralize data collection at the level of the unit of study of interest (for example the area under the responsibility of a supervisor). When this data collection is conducted through local supervision and monitoring processes, LQAS has been used to survey an entire region at a lower cost than cluster sampling. When used to obtain an overall regional coverage figure, or conduct a full KPC survey with a central team of surveyors, it has shown to take more time and to cost more than cluster-sampling.¹³

Box 4: Steps in applying LQAS

LQAS can be taught relatively quickly to field supervisors, in usually two days. Its implementation follows a series of steps (A training manual for using LQAS to manage decentralized health programs: a user handbook.. Valadez J.J., 1998):

Define the service to be assessed.

Identify the unit of interest: a supervisor area, a district, a health worker?

Define the higher and lower thresholds of performance. A difference of 30% (25% to 35%) is recommended between the two thresholds, to maximize the efficiencies of LQAS. These thresholds are based on a management decision, and prior information about the expected performance of health workers.

1. Determine the level of acceptable error (risk of misclassification).
2. From a table determine the sample size and decision rule (number of errors accepted before an area is classified as performing “below expectations”).

For each area, the number of errors observed (non immunized children, service delivered without respecting the defined standards of care, etc.) will determine reliably if the area is performing above or below expectations.

Depending on the respective demographic weight of each area, an aggregated confidence interval for the regional estimate can be computed.

2.2. A brief review of LQAS applications in the literature

LQAS’s main applications in child survival are service adequacy, coverage, and quality.

^{12,14} Reported applications present LQAS as a practical, relatively low-cost field method that is increasingly being applied in health programs. ¹⁵ The method has been used to assess immunization coverage, women’s health issues such as family planning and antenatal care, use of ORT, disease incidence, and evaluation of health worker performance, in urban zones, rural

areas, or on a national scale, in over 32 countries and the five continents. Lots have been defined as health center catchment areas, townships, villages, districts or zones in a city or within a province. Physicians or individual community workers have also been considered as lots in at least five surveys. Total sample sizes are reported from 70 to 25,230

Management information at the peripheral level

The first strength of LQAS is in providing information at the local level, which the supervisors can use immediately to assess either the performance of health workers, or local levels of coverage, knowledge and practices (whether above or below a certain prevalence). Conducting the baseline KPC survey, rather than a one-time exercise, becomes basis for establishing a health information system for the project. Comparisons can be made between service areas. Data gathering can be decentralized at the level of the supervisors, and be used rapidly through a decision process defined a priori. The literature offers examples of how the method can be integrated into supervision systems. ¹⁶⁻¹⁹

Regional level coverage estimates by aggregating local data

The estimates at the local level are based on too small a sample to provide a useful level of precision, but they can be aggregated (and weighed according to the respective size of each zone) to provide a reliable regional estimate of coverage (or performance, whichever has been under investigation).

In summary:

LQAS is a sampling strategy designed to guide management decisions, and answer with confidence whether specific areas perform below or above a determined threshold.

The risk of error— as in all statistical procedures — is determined beforehand, by the manager / evaluator.

Because it does not attempt to provide precise estimates at the local level, but only to answer a Yes/No question, LQAS allows working with small samples.

In fact, sample sizes of 19 (19 households, 19 health workers, 19 activities performed by a health worker) offer a high level of precision for decision-making. When all areas under study perform above expectation, the LQAS decision rule loses its value as a way to differentiate high and low performance areas.

Let us imagine that the expected level of performance for measles coverage in all our supervision-areas is 70%. A 19:9 decision rule (meaning that nine non-immunized children would be “accepted” in each sample of 19 children randomly selected from one supervision-area) will allow us to discriminate low from high coverage areas with a high specificity. But if all supervision-areas are achieving 70% coverage, all samples will have no more than nine non-immunized children, and no management decision will be made from the results. Having chosen a sample size of 19 it will, however, be possible to change our decision rule to 19:7 for example, and thus differentiate supervision areas based on an expected coverage of 80%.

A sample size of 19 allows the manager to retrospectively change the thresholds of acceptable performance, change the number of acceptable errors accordingly, and conduct a test on more stringent standards, in order to define which areas require additional management support.

Data collected at the local level can be weighed and aggregated to provide a reliable regional-level estimate. Because LQAS is very similar to a direct random sampling strategy, it does not have a design effect, and can provide a more precise estimate than cluster sampling methods (see example 7, in section 3.).

Table 4: a comparison of LQAS and cluster sampling

	LQAS	CLUSTER SAMPLE
Used to	Identifying high and low performance local areas in service adequacy, coverage, and quality at the peripheral level assessing service adequacy and coverage at regional or national level	assessing service adequacy and coverage at regional or national level with relatively small sample
Sample size	N = 15 to 28 per local area; (19 recommended as optimal in CS) Total sample by aggregation = 19 x m areas.	N = 30 * 7 = 210 for EPI surveys N = 30 x 10 = 300 for KPC surveys
assumptions	All children of study area under the care of the observed health care staff	All children of study area under the care of the observed health care staff Uniform level of coverage Rapid, uncomplicated, well known
Advantages	Provides information at unit level, rapidly and locally Can assess CI for coverage at regional level* Sensitivity high for detecting low performance (high NPV) (rejecting good performance) Specificity increases with repeated measures at a local level (for example through supervision) Data collection can be integrated with supervision system	
Limits and constraints	Cannot draw CI for local area coverage (N too small) but simply answer Y/N question about extreme performance Sample size, is function of size of problem and cost of error Sampling frame: expensive and time consuming Specificity can be low for good performance	Does not identify local areas or units of low coverage or performance (where service is delivered) Requires 2 nd stage to identify problem units Can be biased by the selection of low or high performance clusters Large confidence interval of estimate (Design Effect)
Cost	More expensive and longer (3 times) than EPI-cluster for entire region survey Can be reduced by decentralizing data collection (data collection can be cheaper than conducting a cluster survey in this case)	Cheaper than random sample (might be cheaper than LQAS when data collection is centralized)
Threats to validity		Identical

3. *Qualitative questions in the KPC survey*

Child survival programs are frequently faced with questions about the cultural factors influencing the success or constraining their efforts to promote appropriate behaviors at the household level. They may also need information about ‘sensitive issues’, such as factors of risks in sexual behaviors, which are unlikely to be answered through survey questions. The KPC survey actually advocates that such issues be addressed through qualitative methods. Focus groups are the most commonly used method, but the potential benefits of key-informant interviews and other anthropological approaches, from which Participatory Learning and Action (PLA) has also derived, should not be neglected.

There simply is not a shortcut that would allow managers and evaluators to assess cultural and sensitive behavioral issues through survey questions. The investment in qualitative research needs to be thought about carefully, because of the limitations in the ability to generalize the data. But managers should also feel confident that validity is not only defined by the use of statistical procedures. Sampling for qualitative research has its own set of guiding principles and usually relies on non-probabilistic approaches.

It is beyond the scope of this paper to describe qualitative methods and the sampling approaches they require, and the reader is encouraged to refer to the relevant literature for a more in-depth discussion.

4. *Annotated sampling examples*

In this section we will present seven sampling examples to illustrate some of the key principles discussed throughout the report.

As a starting point, we will consider a PVO implementing a child survival program in a district covering 10 sub-districts. In accordance with the policies of the Ministry of Health, decision-making is being decentralized as much as possible to the sub-district level. The sub-districts are expected to raise most of their operating budget through user fees.

We will now present potential objectives for monitoring and evaluation, and

demonstrate the consequences of these objectives in terms of sampling and sample size. We will use measles vaccination coverage in children 12-23 months of age as an example of an indicator we are monitoring:

Example 1: sample size determination for baseline survey.

Example 2: assessing achievement of objectives in the entire district.

Example 3: analyses based on a final coverage estimate.

Example 4: calculating a sample size for the comparison between two groups

Example 5: assessing the significance of an observed change.

Example 6: an operations research study to compare two intervention approaches to improve immunization coverage.

Example 7: identification of sub-districts performing below standards and aggregated regional coverage estimate, using LQAS.

Example 1: Sample size determination for baseline survey.

From the information available in other regions, we expect measles vaccination coverage to be around 40%, but we would like to assess the coverage in our region of intervention within 10% of our estimate.

If we used simple random sampling to estimate this coverage, the appropriate formula for the sample size would be:

$$N = Z_{\alpha}^2 pq / d^2 \quad (1)^{(*)}$$

() Refer to appropriate reference for a discussion of the formula.*

We can set the formula values as follows:

$Z_{\alpha} = 1.96$ corresponding to a confidence level of 95%

$p = 0.4$ (our expected coverage)

$q = 1 - 0.4 = 0.6$

$d = \text{accuracy desired} = 10\% = 0.10$

We obtain:

$$N = (1.96)^2 \times 0.4 \times 0.6 / (0.10)^2 = 92$$

For reasons of economy, time and logistics, we have decided to use a 30-cluster sampling method to conduct our survey. As we have seen, this introduces a design effect (DEf) in the precision of our estimate. A measles vaccination cluster survey in a neighboring region obtained a DEf of 1.8, slightly lower than the value of 2.0 usually used to calculate cluster-survey sample size.

We can now correct the sample size needed in our cluster survey (N_c) to achieve the same level of precision of 10% by using the formula:

$$N_c = N * DEf(2)$$

In this case,

$$N_c = 92 \times 1.8 = 166$$

This is, of course, the sample size that would be needed in the age group concerned by measles vaccination. As the KPC survey targets children 0 to 23 months of age and not only 12 to 23 months, we need to obtain a total sample size large enough to include 166 children in the 12 to 23 months of age sub-group. If we estimate (from available demographic data) that 45% of the sample of children 0 to 23 months of age will be in the target age range for this indicator of 12-23 months of age, different options are available to ensure this result:

We can increase the total sample size proportionally to our need for 166 children aged 12-23 months.

$$N_t = 166 \times (100/45) = 369\textbf{(3)}$$

Where N_t is the total sample size.

In this case, we expect to have an appropriate sample size for our immunization coverage question.

As described in table 3 of section 3, we could also specifically oversample children aged 12-23 months so that 166 are sampled.

This approach is quite simple and cost-effective.

If it appeared important to ask one series of question for children 0-11 months and another for 12-23 months, a parallel sampling strategy might be used. In this case, two different sample sizes should be calculated and we would use $N_c=166$ for the immunization coverage question.

If we could decrease the homogeneity within each cluster, either by stratifying by age group, or by improving the recruitment process (selection of each third or fifth household after the first one, initiating the randomization from different quadrants of the villages/clusters) we would decrease the DEf of our survey. this approach is in fact feasible can only be established by experimentation in similar settings, about similar questions, and analysis with a computer software such as EPINFO.

Assuming we expect to have a lower DEf, for example 1.2 instead of 1.8, we would then need a sample size of:

$$N_c = 92 \times 1.2 = 111(\text{see (2)})$$

$$N_t = (92 \times 1.2) \times (100/45) = 246(\text{see (3)})$$

Example 2: Assessing achievement of objectives in the entire district.

We now have to determine the sample size for the final survey in order to assess whether a target measles vaccination coverage of 70% has been reached.

With the CSAMPLE program in EPI-INFO for the baseline survey (with 30 clusters where every 3rd household was selected), we found a DEf of 1.5. We should assume the same DEf for our final survey if we follow the same method.

If we used simple random sampling with

$Z'' = 1.96$ corresponding to a confidence level of 95%

$p = 0.7$ (our target coverage)

$q = 1 - 0.7 = 0.3$

$d = \text{accuracy desired} = 10\% = 0.10$

We would need:

$$N = (1.96)^2 \times 0.7 \times 0.3 / (0.10)^2 = 84$$

Using a 30 cluster sample, we obtain:

$$N_c = 84 \times 1.5 = 126$$

Using the same logic as for the baseline we would need a total sample N_t :

$$N_t = 126 \times (100/45) = 280$$

Or we could also simply over-sample in the 12-23 months old age group (see example 1).

Example 3: Analyses based on a final coverage estimate.

Let us now assume that 137 children aged 12-23 months were in our final survey. If 78 of them (or 56.9%) have been vaccinated against measles, we can use the CSAMPLE program in EPI-INFO, to obtain a 'correct' 95% confidence interval (as opposed to calculating an 'incorrect' confidence interval by ignoring the DEf introduced by the cluster design). We obtain a DEf of 1.06 and a 95% confidence interval of our estimate between 48.4% and 65.5%.

We conclude that we have failed to reach our target coverage of 70%.

If we only 'recruited' 97 children aged 12-23 months in our final survey and 56 of them (or 57.7 %) have been vaccinated against measles. With a larger DEf of 1.70, we would obtain a 95% confidence interval of our estimate between 44.7% and 70.7%.

We cannot conclude (statistically) that we have failed to reach our target coverage of 70%, at the 95% confidence level. But our best estimate is that we are 12% below our objective. Accepting a smaller confidence level (90% for example) we could, however, probably reject having reached our target, since its value is close to the margins of our 95% confidence interval. But it would have been more satisfactory to increase the sample size in the age-group and to decrease the DEf, in order to be able to answer conclusively at the traditional 95% confidence level.

With 59 children immunized out of 65 (90.8 %), and a DEf of 1.38, we would obtain a 95% confidence interval of our estimate between 82.5% and 99.0%.

We conclude that we have reached our target coverage of 70% and are even above an 80% target, with a 95% confidence.

Inversely, in spite of a high estimate on a larger sample (79.4% or 104 children out of 131), a large DEf (e.g. 2.16) related to a high level of clustering of immunization, would yield a confidence interval between 69% and 89.6%, and would not allow us to conclude statistically that our estimate is statistically significantly superior to our preset objective. As a manager, we would report that our best estimate is that the region of intervention has reached 79% coverage and that there is no statistical evidence against the program having reached its objective.

Example 4: Calculating a sample size for the purpose of a comparison between two phases or two groups.

Let us continue our example, using the 30-cluster method to conduct our surveys. Let us assume that a survey in a neighboring region using a 30-cluster design obtained a DEf of 1.8.

One formula given for calculating the two sample sizes is given by:

$$N_1 = N_2 = [Z_{\alpha/2}[2pq] + Z_{\beta}[p_1q_1 + p_2q_2]]^2 / (p_1 - p_2)^2 \quad (4)$$

Where:

N_1 = baseline sample size

N_2 = final evaluation sample size

$Z_{\alpha/2}$ is the Z value corresponding to the chosen level of risk α . ($Z_{\alpha/2}$ should be used in two-sided tests, and Z_{α} should be used in one-sided tests.)

Z_{β} is the Z value corresponding to the chosen level of risk β (it directly relates to the ‘power’ of the test as power = 1 - β); (Z_{β} = 1.28 for a power of .9)

p_1 is the expected coverage at baseline

$q_1 = 1 - p_1$

p_2 is the expected final coverage

$q_2 = 1 - p_2$

$p = (N_1 p_1 + N_2 p_2) / (N_1 + N_2)$

$q = 1 - p$

In fact more precise statistical software use a correction of formula (4), as follows:

$$N_1' = N_2' = N_1 \times [1 + \alpha(1 + 4(p_1 - p_2))]^2 / 4(p_1 - p_2)^2 \quad (5)$$

If the expected coverage at baseline is 40%, and we want to be able to demonstrate an

increase of 20 percentage-points in the final evaluation (meaning that we want to be able to demonstrate an increase from 40% to 60%), the sample size for each survey would be:

$$N_1 = N_2 = \{ 1.96[2(.5)(.5)] + 1.28[(.4)(.6) + (.6)(.4)] \}^2 / (.4-.6)^2$$

$$N_1 = N_2 = 129$$

A simplified formula is available, and would yield a similar result:

$$N_1 = N_2 = [Z''/2 + Z\$]^2 [2pq] / (p_1 - p_2)^2 = [1.96 + 1.28]^2 [2(.5)(.5)] / (.2)^2 = 131$$

[Where p is the estimate sample proportion, and can be set at .5 if we make no assumption about the baseline and final coverage rates (p x q is maximum for p = q = .5).]

Statistical software, using formula (5) would yield $N_1' = N_2' = 140$.

140 children would be needed in the 12-23 months old group of interest for the baseline and final survey, if the samples were drawn by a simple random procedure. The cluster design forces us to correct the sample size in order to maintain the level of precision.

$$N_{1c} = N_{2c} = 140 \times 1.8 = 252$$

If we simply increased the total sample size in order to achieve 232 children in the 12-23 months age group, by the same process as in the preceding example, we would need a sample size for baseline and final evaluation of:

$$N_{1t} = N_{2t} = 252 \times (100 / 45) = 560 \text{ children.}$$

Example 5: Assessing the significance of an observed change

Let us now consider a situation where the baseline and final samples were chosen as:

$$N_1 = N_2 = 166$$

Our coverage rate estimates are 40% and 60% respectively at baseline and final, and we would like to assess whether this increase reflects a true change in the population of intervention. This question is similar to asking what the significance of the observed change is.

Our best estimate of the difference between the two proportions is: $(.6) - (.4) = .2$

If we ignored the DEf, we could construct a 95% confidence interval for the difference between the two proportions, with the following formula:

$$95\% \text{ CI for } (p_1 - p_2) = (p_1 - p_2) \pm Z_{\alpha/2} \times \sqrt{[(p_1 q_1) / N_1] + [(p_2 q_2) / N_2]} \quad (6)$$

In this case, we would obtain:

$$95\% \text{ CI for } (p_1 - p_2) = 0.2 \pm 1.96 \times \sqrt{[(.4)(.6)) / 166] + [(.6)(.4)) / 166]}$$

$$95\% \text{ CI for } (p_1 - p_2) = 0.2 \pm 0.105$$

$$\text{Lower } 95\% \text{ CI for } (p_1 - p_2) = 0.095$$

$$\text{Upper } 95\% \text{ CI for } (p_1 - p_2) = 0.305$$

The 95% CI (0.059 to 0.341) does not include zero, so we are 95% confident that a true increase of coverage rate has taken place. Our best estimate for this increase is 20%, and the 95% confidence interval is 9.5% to 30.5%.

NOTA:

- (a) Alternatively, a Z-test can be conducted to test whether the two proportions are equal

to one another. This is equivalent to constructing a 95% CI and observing whether it includes zero or not.

$$Z = (p_1 - p_2) / \sqrt{[(pq) / N_1] + [(pq) / N_2]}$$

$$\text{with } p = (N_1 p_1 + N_2 p_2) / (N_1 + N_2)$$

Z can then be compared to a critical Z (e.g. 1.960 for a 5% significance level with one degree of freedom), which can be found in statistical tables.

(b) A more precise formula for the 95% CI is actually:

$$95\% \text{ CI for } (p_1 - p_2) = (p_1 - p_2) \pm Z_{\alpha} \times \sqrt{[(pq) / N_1] + [(pq) / N_2]}$$

$$\text{with } p = (N_1 p_1 + N_2 p_2) / (N_1 + N_2).$$

In reality, our sample did not come from a direct sampling method, and using the appropriate statistical software, the confidence interval would be corrected by a factor of the Df., that we will simply call C for this illustration. (For more precision about this correction factor, see Donner and Klar ^{20,21}).

$$\text{True 95\% CI for } (p_1 - p_2) = (p_1 - p_2) \pm Z_{\alpha} \times \sqrt{[C \times (p_1 q_1) / N_1] + [C \times (p_2 q_2) / N_2]}$$

Depending on the Df., we would obtain a possibly much large CI, such as:

$$\text{true 95\% CI for } (p_1 - p_2) = 0.2 \pm 0.205$$

$$\text{Lower 95\% CI for } (p_1 - p_2) = -0.005$$

$$\text{Upper 95\% CI for } (p_1 - p_2) = 0.405$$

The true 95% CI (-0.005 to 0.405) includes zero so, although our best estimate

for the difference of coverage between the two phases is 20%, we cannot conclude that it is statistically significantly different from 0.

Example 6: An operations research study to compare two intervention approaches to improve immunization coverage.

So far we have been considering sampling and evaluation designs for monitoring and evaluation of routine activities of a PVO child survival project. PVOs are increasingly becoming involved in operations research. The standards of proof required for a research study are higher, and compel us to use a formal study design.

We will now consider that the program wants to evaluate whether a new approach for carrying out routine immunization is significantly better than the approach currently used by the national immunization program. This change will have consequences in terms of costs, management and funding for the program. The government and other NGOs operating in the country will only be interested in adopting it if there is proof that it is superior to the current approach. The program manager therefore wants to be able to establish that the new approach was the “cause” of anticipated improvements in coverage, and that the improvements cannot be attributed to other causes.

The analysis is complicated in this case by the issue of “unit of analysis”. Since the sub-district was the unit of randomization and the level of intervention, the sub-district needs to be the unit of analysis. And in fact our sample size is five intervention plus five comparison sub-districts for a total of ten. Although we are administering KPC surveys to individual mothers about their individual children, our sample size is not the total number of children aged 12-23 months in the survey because individual children were not randomized to receive one immunization approach or another: All children living in one sub-district receive the same approach. ²

If we were to not randomize which sub-districts would be the first to receive the new immunization approach, our data might be difficult to interpret. For example, if we were to implement the new approach in five sub-districts where the PVO had already been working in a

previous food security project, we would not know if the better results achieved in the sub-districts receiving the new approach were due to the approach itself, or the trust and infrastructure established between the PVO and the communities during the previous project.

We need an estimate for each sub-district with a precision of $\pm 10\%$. If we assume coverage of .5 for our calculation, formula (1) in example 1 gives us the desired sample size per sub-district:

$$N = 96$$

We need then a total sample size of

$$N_t = 96 \times 10 = 960 \text{ children.}$$

The Wilcoxon's Rank Sum Test is a non-parametric test, which allows us to compare results aggregated to the sub-district level. Each sub-district is given a rank (from one to ten) in descending order depending on its aggregate coverage rate. Tied ranks are allotted the mid-rank of the group. The ranks of the sub-districts are added for each group (intervention and control or comparison in this case) (table 5).

Table 5: Illustration of the Wilcoxon Rank Sum Test

		Pre-intervention				Post-intervention			
		Intervention	Control			Intervention	Control		
		Sub-districts	Sub-districts			Sub-districts	Sub-districts		
		coverage	rank	coverage	rank	coverage	rank	coverage	rank
		25%	1.5	25%,	1.5			26%,	1
								38%	2
		38%	4	34%	3	40%	3		
		41%	5					47%	4
		45%	6.5					50%	5
				45%	6.5	51%	6		
				49%	8			52%	7
		53%	10	50%	9	53%	8		
						54%	9		
						58%	10		
Sum of ranks		Ti =27.0		Tc=28.0		Ti2=36		Tc2=19	

Using the table of critical values of the rank sum test, we have the probability (p) that the smallest sum of rank is less of equal to W_0 corresponding to H_0 , where there is no difference between the two sums.

Test

difference

(p-value)

p = 0.50 [ns]

p = 0.047

The difference is significant.

Tables of critical values are available to determine whether a difference in the sum of the ranks is significant or not. ²² (The process for using this test is also described in Smith and Morrow, ²) It is expected that the sum of the ranks will not be statistically different at baseline, if the random allocation process has been respected. The computation is repeated for the post-intervention coverage rates, and the comparison is repeated, allowing us to conclude whether the observed changes were significant. The Wilcoxon's Rank Sum Test does not describe the amplitude of the change (in fact it does not consider the coverage rates at all, except for the purpose of ranking districts).

Example 7: identification of sub-districts performing below standards and aggregated regional coverage estimate, using LQAS.

Let us now consider that we want to be able to compare the performance of the ten sub-districts in order to select the sub-district supervisors with the most pressing need for increased support, including a refresher course. In this situation, LQAS will provide us with a rapid and cost-efficient way of gathering such information and it will also allow us to measure a global regional coverage rate.

LQAS requires following a step-by-step approach in defining thresholds of performance, acceptable risks of error, from which decision rules are made. Considering the small sample size with which LQAS operates, it operates with confidence for decision rules based on a substantial difference in performance level. For this reason, two thresholds of performance are determined: a higher threshold (the expected level of performance we want all sub-districts to reach), and a lower threshold, which will define sub-districts in need of immediate attention.

For our example, the program management team has decided that 80% measles coverage is the expected level of performance for all ten sub-districts. And immediate action will be taken to improve the situation in all sub-districts where coverage is below 50%. The two thresholds have now been determined.

Following the LQAS approach, the management team coached by the evaluator choose the risk of misclassification of sub-districts that they are willing to live with, and accordingly come to a decision rule or 19:6. Nineteen households will be randomly selected by the supervisor of each sub-district for control of the measles' immunization status. If six or less than six children among the 19 fail to be immunized, the sub-district will be classified as "above expectation". Our confidence level that the correct decision will be made in this case is 93.2%. If seven or more children among the 19 are not immunized, the sub-district will be considered as "below expectation", with a 91.6% confidence level.

It will take about two days to train the supervisors in the method, and about the same amount of time for them to collect the data, and immediately obtain the status of their sub-

district based on the decision rule.

The program manager will thus obtain extremely quickly a performance map for all ten sub-districts under his/her responsibility.

If now, a coverage rate must be computed for the entire district from the sub-district level data, the information can be provided by a total sample size of:

$$N_t = 19 \times 10 = 190$$

The computation of the regional coverage estimate and its confidence interval requires us to use a weighing scheme based on the distribution of the population of children 12-23 months among the 10 sub-districts (table 6).

The regional coverage estimate (pr) is the sum of the weighted sub-district coverage estimates, where the weight (wt) is the ratio of the sub-district 12-23 months population over the region's 12-23 months population.

Although none of the sub-districts' estimates (p) are reliable, due to the small sample size, the overall regional coverage estimate of 0.68 is quite reliable. Its confidence interval can be calculated by the formula:

$$95\% \text{ CI regional coverage rate} = pr \pm 1.96 \times \sqrt{3 [wt^2 \times (pq) / n]}$$

From table 6 we have: $3 [wt^2 \times (pq) / n] = 0.0012$

and so:

$$95\% \text{ CI } (pr) = 0.68 \pm 1.96 \times \sqrt{0.0012} = 0.68 \pm 0.07$$

Our regional coverage estimate is 68%, with a 95% confidence interval between 61% and 74%.

Three sub-districts (C, D & I) require immediate attention as they are significantly below expectations.

With a more stringent decision rule (19:5, based on thresholds of 90% and 50%), four sub-districts (B, E, F & J) would maintain a level of performance above expectations, and might provide valuable insights.

Table 6: Aggregate coverage estimate from 10 LQAS samples of size 19

District	12-23 mo	Weight	# children	Sample	Coverage	wt x p	$(wt)^2 \times (p)(q) / n$
A	4000	0.08	6	19	0.68	0.05	0.0001
B	8000	0.16	5	19	0.74	0.12	0.0003
C	3000	0.06	8	19	0.58	0.03	0.0000
D	7000	0.14	9	19	0.53	0.07	0.0003
E	4000	0.08	3	19	0.84	0.07	0.0000
F	6000	0.12	5	19	0.74	0.09	0.0001
G	3000	0.06	6	19	0.68	0.04	0.0000
H	6000	0.12	6	19	0.68	0.08	0.0002
I	5000	0.1	8	19	0.58	0.06	0.0001
J	4000	0.08	5	19	0.74	0.06	0.0001
Total	50000	1		190	pr = 0.68		0.0012

Conclusion

Information is a rare and essential commodity for managers of CS programs.

Information can serve many purposes:

- < Exploratory: PWhat is the situation (in the broad sense of the term) faced by a new project?
- < Planning: PWhat should the priorities of our program be?
- PWhat should the program's objectives be?
- < Monitoring: PWhat activities are effectively being implementing?
- PWith what level of quality are they being implemented?
- < Evaluation: PWhat are the achievements of the program?
- PHave objectives been reached?
- PHave key indicators changed between baseline and final evaluation?
- PWhat is the plausible responsibility (effectiveness) of the program in the improvement of key indicators?
- < Research: PWhat is the probabilistically demonstrated responsibility (efficacy) of an intervention design vs. no intervention, all other factors being held constants?
- PWhat is the respective benefit of an intervention design vs. another, all other factors being held constants?

The systematic use of KPC surveys in the last 10 years has contributed substantially to improving diagnostics, decision-making, monitoring and evaluation in USAID-supported CS programs. The 30-cluster method has been the most widely used approach to data gathering at

the population level, and LQAS is growing in favor as a useful way of bringing the analysis to the local operational level. Unsurprisingly, with time and experience, managers have increased their demand for information, in order to improve the management process, but also to report with rigor and method on the achievements of their programs. Monitoring for results has become a central question.

This report has tried to make more explicit the premises and limitations of 30-cluster KPC surveys, to present options for overcoming some of these limitations either by improvements on the cluster sampling method, or by the use of LQAS as an alternative sampling approach. Perhaps as importantly, we have tried to emphasize the conceptual differences between evaluation for research and evaluation for management. Each additional level of methodological complexity comes with an increasing cost to the program. And each level of information bears a specific importance for program management. There is, for these reasons, no single solution to the question of program evaluation for results.

Program managers need to be guided by important principles in choosing an evaluation design:

< Sound management:

- Y Will the data gathered (purchased) lead to a decision?
- Y What level of precision is required for this information to be useful?
- Y Is the cost of the information appropriate for the scale of the intervention?

< Accountability:

- Y Will the information inform appropriately donors and partners?
- Y What level of precision and certainty should be expected from the program evaluation?

< Development:

- Y Is evaluation still a capacity-building tool?
- Y Are the methods used to inform program management sustainable in the context of the intervention?

The choice of methods and tools should take place within a greater understanding of the methodological issues presented in this paper and be based on these essential principles.

Resources on methodology and sampling issues for surveys

1. **Conducting small-scale nutrition surveys – A field manual. Nutrition planning, assessment and evaluation service. Food policy and nutrition division. Food and Agriculture Organization of the United Nations. Rome, 1990; 186 pages.**

Purpose of the manual

This manual has two primary purposes: 1) to assist the nutritionist in deciding whether or not to conduct a project-specific nutrition survey; and 2) to provide the non-survey specialist with practical step-by-step guidance in conducting a survey. The manual addresses the important issue of when it is appropriate and when not to conduct a survey. Although the manual mainly addresses the specific needs of a project-specific nutrition survey, it also provides basic principles that can be applied to other kinds of surveys.

Organization of the manual

The manual is organized in eight chapters, opening with an introduction:

Chapters 1 and 2 provide an introduction to the manual and to surveys. Included are basic guidelines on how to decide whether or not to do a project-specific nutrition survey and a detailed list of all the steps in the survey process. Chapters 3 and 4 focus on planning the survey and selecting the survey sample. Discussed are the preliminary planning, budgeting and organization of the survey work and the survey team. Also provided is a general introduction in non-technical terms to the basic principles of sampling theory and explains step by step how to draw a statistically representative sample. Chapter 5, “Choosing Survey Content,” describes some general categories of information usually collected in nutrition surveys and suggests the best ways to collect that information. The sixth and seventh chapters address the tasks of writing the questionnaire and collecting the data. Reviewed are the practical needs of recruiting

and training interviewers and supervising data collection. Chapter 8, “Processing and Analyzing the Data.” discusses various ways to interpret and analyze survey results and provides some simple formulas for testing the validity and significance of data. The final chapter (9), “Presenting and Using the Survey Results” explains the importance of clear, concise and timely reporting and provides guidelines for writing the final report and presenting the survey results to project planners.

Ordering Information

Source #1

Price: \$33.00, ISBN 02851

Sales and Marketing Group
Food and Agriculture Organization
Viale delle Terme di Caracalla
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Fax (+ 39 06) 57053360

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Internet Order Form

<http://www.fao.org/CATALOG/interact/order-e.htm>

Source #2

Can be downloaded from the Anthropometry Resource Center:

<http://www.odc.com/anthro/>

[select "Anthropometric Desk Reference," then click on the section, "Reference Books"]

- 1. Constructing Samples for Characterizing Household Food Security and for Monitoring and Evaluating Food Security Interventions: Theoretical Concerns and Practical Guidelines. Carletto C. International Food Policy Research Institute. 1999; 35 pages.**

Purpose of the guide

This guide discusses how random sampling techniques can economize on the costs of gathering information while increasing the likelihood that it will be both accurate and available in a timely fashion. It is organized in two parts. The first part of the guide provides a non-technical overview that begins with a discussion of why random samples are often favored over non-random samples and censuses for obtaining information on household characteristics such as food security. Provided is a step-by-step description of the process of constructing a random sample. This description is followed by an example that outlines how a random sample

of farmers was obtained in order to assess the impact of two projects directed toward smallholders in Malawi. The second part of the guide consists of four technical appendices that complement and expand upon the discussion found in the overview: 1) glossary; 2) calculating sample sizes; 3) using random number tables to obtain a sample; and 4) selecting clusters when they are of unequal size. These appendices are designed for individuals who have some familiarity with statistics.

Ordering Information

Single copies available free of charge from:
International Food Policy Research Institute
2033 K Street, NW
Washington, DC 20006, USA
Telephone 202-862-5600
Fax 202-467-4439
E-mail ifpri@cgiar.org
Internet <http://www.ifpri.org>
(Available in PDF format:
<http://www.iimi.org/ifpri/themes/mp18/pubs.htm>)

1. How to Sample in Surveys. Fink A. The Survey Kit TSK 6. Sage Publications, 1995; 73 pages.

Purpose of the book

This book is designed to provide guidelines for selecting and using appropriate sampling methods for surveys. It offers a simple presentation of the principles and types of sampling methods. The specific objectives of the book are to help the reader: 1) Distinguish between target populations and samples; 2) Choose the appropriate probability and non-probability sampling methods (many sampling techniques are addressed, including simple random sampling, stratified random sampling, systematic sampling, cluster sampling, convenience sampling, snowball sampling, quota sampling, and focus groups); 3) Understand the logic in estimating standard errors; 4) Understand the logic in sample size determinations; 5) Understand the sources of error in sampling; and 5) Calculate the response rate.

Ordering Information

Price: \$14.95, ISBN: 0-8039-5754-8

3.

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Internet: <http://www.sagepub.com/>

1. Monitoring Immunization Services Using the Lot Quality Technique. WHO Global Programme for Vaccines and Immunization. World Health Organization, Geneva, 1996; 119 pages + answer sheets (1v.).

Purpose of the manual

This manual is designed to provide guidance to managers who want to use the Lot Quality (LQ) technique to monitor immunization services. It focuses on two uses of the LQ technique: Lot Quality Assessment and Lot Quality Coverage Survey. LQ Assessment is done to decide whether one or more health service units are meeting a specified standard of performance. LQ Coverage Survey is performed to measure immunization coverage, which is done by aggregating data from all health service units in the area being surveyed. Other than the data aggregation process (discussed in Section 4.3), the steps for carrying out the LQ technique are the same for either use and are described in this manual.

4. The manual is organized in five sections that provide step-by-step instructions for conducting a household-based evaluation using the LQ technique: 1) Plan the survey; 2) Prepare for the survey; 3) Conduct the survey; 4) Tabulate and analyze data; and 5) Take action. Seven different exercises are incorporated into the manual for practicing the components of the Lot Quality Technique. Answer sheets to the exercises are provided in the supplement to this document.

Exercise A is worksheet that takes the reader through the steps leading up to a final estimation of the total sample size for a Lot Quality study. In *Exercise B* the worksheet started in Exercise A is completed when the reader determines a lot sample size, low threshold, high threshold, and decision value. During *Exercise C* the reader is asked to select sampling points as s/he would as a district level supervisor conducting a Lot Quality Assessment in health centers. In *Exercise D* the reader is asked to describe how s/he would select a household in which to collect data in a sampling point area that is selected in a community with no individual or household list and no count of households. *Exercise E, F & G.* In these three exercises, the forms for each lot are checked and completed. Additionally, the reader will practice the steps involved with completing summary forms, including a worksheet on the aggregation of Lot Data.

Ordering Information

Document numbers: Main - WHO/VRD/TRAM/96.01

Supplement - WHO/VRD/TRAM/96.01 SUPP.1

World Health Organization

Global Programme for Vaccines and Immunization

CH-1211 Geneva 27

Switzerland

Telephone +41 22 791 43 73

Fax +41 22 791 41 93

E-mail gpv@who.ch

Internet

<http://www.who.ch/programmes/gpv/genglish/avail/gpvcatalog/catalog1.htm>

1. NGO Networks for Health Detailed Monitoring and Evaluation Plan. Valadez JJ, Plan International. A publication of the NGO Networks for Health Project. 1999; 64 pages.

Purpose of the document

This document offers a presentation of and guidelines for the principles and implementation of monitoring and evaluation in child survival projects, with discussion of the

KPC indicators, and guidelines for using LQAS in monitoring health projects.

Specifically, the document has four objectives: 1) To describe the Networks' Project Monitoring and Evaluation (M&E) Plan, including procedures; 2) To present an approach that PVOs can use to carry out high quality service provision through high quality M&E at the country level, either alone or in a network; 3) To present illustrative M&E indicators that can be used as *core* indicators that the Networks Project will report to the Global Bureau, Center for Population, Health and Nutrition (G/PHN), and other *priority* indicators that the Networks Project Management Unit (NMU) would use to monitor the project. Additional indicators, which are as yet untested, are also considered to facilitate program management; and 4) To indicate how the project will interact with USAID Missions with respect to M&E.

Ordering Information

5. *NGO Networks for Health*

1620 I Street, NW

Suite 900

Washington, DC 20006

Telephone 202-955-0070

Fax 202-955-1105

E-mail info@ngonetworks.org

Internet <http://www.ngonetworks.org>

1. Sampling Guide. Magnani R. Food Security and Nutrition Monitoring (IMPACT) Project, for the U.S. Agency for International Development. 1997; 47 pages.

This guide belongs to a series called the Title II Generic Indicator Guides that are part of the USAID's support of the Cooperating Sponsors in developing monitoring and evaluation systems for use in Title II programs. (Appendix 1 of this guide lists the Generic Title II Indicators.) The objective of this series of guides is to provide the technical basis for the indicators and the recommended method for collecting, analyzing and reporting on the generic indicators.

Purpose of the guide

The *Sampling Guide* is designed to provide guidance on how to go about choosing samples of communities, households, and/or individuals for (sample) surveys. The aim is to select samples that can be combined with appropriate indicators and evaluation study designs to reach valid conclusions about the effectiveness of Title II programs. This guide emphasizes the use of probability sampling methods.

This guide was written for readers with a limited background in sampling.

However, knowledge of basic statistics will be useful. Materials are presented step-by-step in the order likely to be followed in carrying out a Title II evaluation. Four principal phases are described: 1) defining the measurement objective of the study; 2) determining the sample size requirements; 3) selecting the sample; and 4) analyzing the data.

Ordering Information

Copies available free of charge from:

Source #1

Food and Nutrition Technical Assistance Project (FANta)
Academy for Educational Development
1825 Connecticut Avenue, NW
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Copies can be downloaded in PDF version (requires Acrobat Reader) or in WordPerfect (self-extracting file) from the FANta web site,
<http://www.fantaproject.org/pubs.htm>

1. Sample Size Determination in Health Studies: A Practical Manual, Lwanga SK, Lemshow S. World Health Organization, Geneva. 1991; 80 pages.

Purpose of the manual

This manual provides a brief guide to selecting sample sizes for the most common situations encountered in health studies. It is designed for health workers and managers who do not have detailed knowledge of statistical methodology. In particular it is geared toward individuals working at the local or district level. Provided are several situations in which minimum sample size must be determined, including studies to estimate population proportion, odds ratio, relative risk and disease incidence. For each situation addressed, an illustrative example is given. In addition to these examples, over fifty tables are provided to help the

reader determine the proper sample size. This manual is designed to be used in “cookbook” fashion as a practical guide to making decisions on sample size once a proposed study and its objectives have been clearly defined.

Ordering Information

Price: Sw. fr. 16.-, (Sw. fr. 11.20 in developing countries), ISBN: 92 4 154405 8
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E-mail (For questions) publications@who.ch
Internet <http://www.who.org/>

1. Survey Trainer’s Guide for PVO Child Survival Project Rapid Knowledge, Practice and Coverage (KPC) Surveys. The Johns Hopkins University, School of Hygiene and Public Health, PVO Child Survival Support Program. January 1997.

Purpose of the guide

This resource consists of a survey trainer’s guide and a binder of 22 appendices. The guide is primarily designed for training staff of community or district level child survival projects (or other primary health care programs) to plan, carry out, and analyze a Rapid KPC Survey. It can also be used as a reference tool for trained staff as they carry out additional Rapid KPC Surveys. It systematically presents the theoretical and practical elements of information needed to train staff, conduct KPC surveys, tabulate and analyze results and develop action plans based on findings. The 22 appendices are meant to complement the guide by offering a suggested format and phased scheduling for a survey coordinator and a core team to learn how to train participants in all phases needed to conduct a Rapid KPC Survey. Each appendix contains a basic checklist of actions required in order to complete all phases of training. Provided are all the necessary components and instructions needed to complete a baseline or follow-up survey used in PVO child survival projects. Included in the appendices are references, information and exercises on sampling, sample size calculation and determination of statistical reliability.

Ordering Information

Copies can be ordered from:
USAID Development Experience Clearinghouse
1611 N Kent St Ste 200
Arlington VA 22209-2111, USA
Telephone 703-351-4006 (extension 106)
Fax 703-351-4039
E-Mail docorder@dec.cdie.org
Internet http://www.dec.org/partners/dexs_public/about.cfm
(run a search for the title)

DOCID/Order No: PN-ACE-292

Price: \$12.87 (paper) | \$2.50 (microfiche)

1. A Training Manual for Using LQAS to Manage Decentralized Health Programs: A User Handbook. Valadez JJ, Plan International, 1998; 35 pages +tables.

Purpose of the manual

This manual offers a systematic and step-by-step presentation of LQAS and its application to managing health systems. It is written for individuals working in Ministries of Health and NGOs. Provided are guidelines for assessing community-based programs, as well as programs organized from health centers or regional hospitals. The manual is organized in eight chapters that address: what information is needed by a health program manager to assess a program's effectiveness; how to use LQAS; how to present an LQAS result; how to aggregate LQA samples to calculate coverage proportions with a confidence interval; and how to assess the technical skills of a health worker. An appendix provides LQAS tables for sample sizes ranging from 10-30.

For a more detailed review of the principles of LQAS, its application and its field testing for the assessment of child survival programs, see *Assessing Child Survival Programs in Developing Countries: Testing Lot Quality Assurance Sampling*.¹²

Ordering Information

9. *NGO Networks for Health*
1620 I Street, NW
Suite 900
Washington, DC 20006
Telephone 202-955-0070
Fax 202-955-1105
E-mail info@ngonetworks.org
Internet <http://www.ngonetworks.org>

9. References

1. Habicht JP, Victora CJ. Evaluation designs for adequacy, plausibility and probability of public health programme performance and impact. *International Journal of Epidemiology* 1999; 28:10-18.
2. Smith P, Morrow RH. Methods of analysis. In: World Health Organization, editor. *Field Trials of Health Interventions in Developing Countries: A toolbox*. 2 ed. MACMILLAN, 1996:323-328.
3. Henderson RH, Sundaresan T. Cluster sampling to assess immunization coverage: a review of experience with a simplified sampling method. *Bull World Health Organ* 1982; 60:253-260.
4. Brogan D, Flagg EW, Deming M, Waldman R. Increasing the accuracy of the Expanded Programme on Immunization's cluster survey design. *Ann Epidemiol* 1994; 4:302-311.
5. Bennett S, Radalowicz A, Vella V, Tomkins A. A computer simulation of household sampling schemes for health surveys in developing countries. *Int J Epidemiol* 1994; 23:1282-1291.
6. Le TN, Verma VK. An analysis of sample designs and sampling errors of the demographic and health surveys. 1997; Macro International Inc., Calverton, MD, USA. 3: Demographic and Health Surveys; Analytical Reports.
7. Katz J. Sample-size implications for population-based cluster surveys of nutritional status. *Am J Clin Nutr* 1995; 61:155-160.
8. Katz J, Carey VJ, Zeger SL, Sommer A. Estimation of design effects and diarrhea clustering within households and villages. *Am J Epidemiol* 1993; 138:994-1006.

9. Katz J, Yoon SS, Brendel K, West KPJ. Sampling designs for xerophthalmia prevalence surveys. *Int J Epidemiol* 1997; 26:1041-1048.
10. Katz J, Zeger SL. Estimation of design effects in cluster surveys. *Ann Epidemiol* 1994; 4:295-301.
11. Yoon SS, Katz J, Brendel K, West KPJ. Efficiency of EPI cluster sampling for assessing diarrhoea and dysentery prevalence. *Bull World Health Organ* 1997; 75:417-426.
12. Valadez JJ. *Assessing Child Survival Programs in Developing Countries: Testing Lot Quality Assurance Sampling*. Harvard University Press, 1991.
13. Singh J, Jain DC, Sharma RS, Verghese T. Evaluation of immunization coverage by lot quality assurance sampling compared with 30-cluster sampling in a primary health centre in India. *Bull World Health Organ* 1996; 74:269-274.
14. Lemeshow S, Taber S. Lot Quality Assurance Sampling: single- and double-sampling plans. *World Health Stat Q* 1991; 44:115-132.
15. Robertson SE, Anker M, Roisin AJ, Macklai N, Engstrom K, LaForce FM. The lot quality technique: a global review of applications in the assessment of health services and disease surveillance. *World Health Stat Q* 1997; 50:199-209.
16. Valadez JJ, Weld L, Vargas WV. Monitoring community health workers' performance through lot quality-assurance sampling. Letter. *Am J Public Health* 1995; 85:1165-1166.
17. Valadez J. Assessing technical quality of service delivery. In: Valadez J, editor. *Assessing child survival programs in developing countries. Testing log quality assurance sampling*. 1991:129-144.
18. Valadez J, Vargas W. Supervision of primary health care in Costa Rica: time well spent?

Health Policy and Planning 1990; 5:118-125.

19. Valadez JJ, Transgrud R. Assessing family planning service-delivery skills in Kenya. *Stud Fam Plann* 1997; 28:143-150.
20. Donner A, Klar N. Confidence interval construction for effect measures arising from cluster randomization trials. *J Clin Epidemiol* 1993; 123-131.
21. Donner A, Klar N. Methods for comparing event rates in intervention studies when the unit of allocation is a cluster. *American Journal of Epidemiology* 1994; 140:279-289.
22. Pagano Marcello, Gauvreau Kimberlee. *Principles of biostatistics*. Duxbury Press, Belmont, California, 1993.

ADDITIONAL RESOURCES

Below is a short list of additional resources, arranged by topic area, which may be useful when conducting KPC surveys.

General M&E

Compendium of Child Survival Monitoring and Evaluation Tools. **Available on the MEASURE Evaluation website** (www.cpc.unc.edu/measure/techassist/tools_methods/inventory/inventory.html).

Epi Info Software and Documentation. **Available on Centers for Disease Control (CDC) website** (www.cdc.gov/epiinfo).

An Inventory of Tools to Support Household and Community Based Programming for Child Survival, Growth and Development (UNICEF, 1999). **Available on CSTS website** (www.childsurvival.com)

Lot Quality Assurance Sampling and Other Methodological Issues

See reference list in paper by Sarriot et. al (1999). **Part of KPC2000+ Toolkit and available at CSTS website** (www.childsurvival.com).

See MEASURE Evaluation compendium listed under “General M&E”.

DRAFT Using LQAS for Assessing Field Programs in Community Health in Developing Countries. A Trainer’s Guide for Baseline Surveys and Regular Monitoring (Valadez, Weiss, Seims, Davis, and Leburg, 2000)

Assessing Child Survival Programs in Developing Countries: Testing Lot Quality Assurance Sampling (Valadez, 1991). Boston: Harvard University Press.

Maternal and Newborn Care

Promoting Quality Maternal and Newborn Care: A Reference Manual for Program Managers (Ross, 1998). **A description of this document and instructions on how to obtain a copy are available on the CSTS website** (www.childsurvival.com).

Population-Level Surveys and Multinational Data

MEASURE DHS+ Model A Questionnaire with Commentary for High Contraceptive Prevalence Countries. Calverton: ORC Macro. (MEASURE DHS+, 2000). **Access to national and cross-national data available at MEASURE DHS+ website** (www.measuredhs.com).

Multiple Indicator Cluster Survey (UNICEF, 1999).

State of the World’s Children (UNICEF, 2000). **Available on UNICEF website** (www.unicef.org).

Nutritional/Anthropometric Assessment

Anthropometric Indicators Measurement Guide. Food and Nutrition Technical Assistance Project (Cogill, 2000). **A draft of this guide can be obtained from FANTA.**

Implementing and Evaluation Nutrition Interventions for Managers of PVO Child Survival Projects. **Available on CSTS website (www.childsurvival.com)**

Measuring Household Food Consumption (Swindale and Ohri-Vachaspati, 1999) **Available on FANTA website (www.fantaproject.org).**

EPINUT program for analyzing anthropometric data. **EPI-Info software and documentation are available on the Centers for Disease Control website (www.cdc.org/epiinfo).**

Qualitative/Participatory Research

Participatory Program Evaluation Manual: Involving Program Stakeholders in the Evaluation Process (Aubel, 1999). **Available on CSTS website (www.childsurvival.com).**

Participatory community planning for child health: Implementation guidelines. Arlington: BASICS (Bhattacharyya & Murray, 1999). **Available on BASICS website (www.basics.org).**

Qualitative Research for Improved Health Programs: A Guide to Manuals for Qualitative and Participatory Research on Child Health, Nutrition, and Reproductive Health (Winch et al., 2000). **Available from CSTS.**

Sick Child/Mortality

- Mortality Survey in Bolivia: The Final Report: Investigating and Identifying the Causes of Death for Children Under Five (Salgado et al.). **Available on BASICS website (www.basics.org).**

Water and Sanitation

Consult the Environmental Health Project's (EHP) website at www.ehproject.org.

Water and Sanitation Indicators Measurement Guide (Billig, Bendahmane, & Swindale, 1999). **Available at FANTA website (www.fantaproject.org).**

**THE CSTS WEBSITE (WWW.CHILDSURVIVAL.COM) PROVIDES
LINKS TO A NUMBER OF OTHER WEBSITES.**